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14. ABSTRACT
AMSARA's mission is to support the development of evidence based medical standards for the Department of Defense (DoD) by guiding improvement of medical and administrative databases and conducting epidemiologic and special studies analyses. AMSARA's mission has recently expanded to include analysis and studies of existing disability tri-service evaluation system by the request of the Office of Assistant Secretary of Defense, Health Affairs. The DES Annual Report includes executive summary, methods, history of medical disqualification, pre-existing conditions, accession medical waiver, and hospitalization among service members evaluated for disability, service disability evaluation databases limitations from FY 06 to FY11, data quality and standardization recommendations, future research, and publications and presentations.

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Tri-service Disability Evaluation Systems Database Analysis and Research

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Tri-service Disability Evaluation Systems Database Analysis and Research

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Executive Summary

The Accession Medical Standards Analysis and Research Activity (AMSARA) has provided the Department of Defense with evidence-based evaluations of accession standards since 1996. As part of this ongoing research activity, data are collected from each service's Disability Evaluation System (DES). Disability evaluation is administered at the service level, with each branch of service responsible for the evaluation of disability in its members. Variability in the type of data available in existing AMSARA databases for each service is present as the result of service level collection of data on disability evaluations and the lack of accession information on many individuals evaluated for disability. AMSARA's mission was expanded in FY 2009 to include audits and studies of existing disability evaluation system by the request of the Office of Assistant Secretary of Defense, Health Affairs. This report describes analyses conducted in fiscal year 2012 of existing DES data collected for accessions and disability research through the end of fiscal year 2011.

In the period from FY 2006 to FY 2011 data were collected on over 140,000 disability evaluations of approximately 125,000 service members. Over half of service members evaluated for disability are evaluated for discharge from the Army. Regardless of service, the vast majority of disability evaluations were completed on active duty, enlisted personnel. Most personnel who undergo disability evaluation are male, aged 20-29 at the time of disability evaluation, and white.

Musculoskeletal conditions, the most common medical condition associated with disability, were present in 40-75% of individuals evaluated for disability, depending on service. Neurological and psychiatric conditions were the next most common unfitting conditions. The particular conditions associated with each body system category vary by service. Dorsopathies and arthritis were the most common musculoskeletal conditions in all services. Posttraumatic stress disorder was the most common condition associated with psychiatric disability in the Army and Marine Corps while mood disorders were the most common psychiatric condition in the Navy and Air Force. Traumatic brain injury is the most common neurological condition among Army and Marine Corps, epilepsy was the most common neurological condition in the Navy and paralysis was most common type of neurological condition in the Air Force.

The majority of evaluations in the period from FY 2006 to FY 2011 were on individuals considered stable for purposes of rating, and thus these individuals were not placed on the temporary disability retirement list. Among individuals not evaluated in conjunction with temporary disability retirement, the most common final disposition was separated with severance in all services. Permanent disability retirement was the most common final disposition for those who had been on the temporary disability retirement list. In FY 2011 10% was the most commonly assigned rating to disability in all services. The proportion of evaluations resulted in a disability rating of 30% or higher in FY 2011 varied from 30% in the Marine Corps to 65% in the Army.

This report also describes the history of accession medical disqualification, presence of pre-existing medical conditions at accession, history of accession medical waiver, and hospitalization among individuals evaluated for disability. History of permanent or temporary medical disqualification prior to accession was approximately 7-8% in all services. Temporary disqualifications were rarer in Air Force personnel evaluated for disability as compared to the

other services. The distribution of ICD-9 diagnoses at MEPS accession examination among the disability population were similar to that of the military population as a whole with exceeding weight and body fat standards the most common conditions listed in MEPS accession medical examination records. Conditions listed in accession medical waiver applications among those evaluated for disability were also similar to those observed in the general applicant population. The distribution of medical conditions that resulted in medical disqualification and waiver did not vary when examining the most prevalent disqualified (DQ) and waiver conditions by disability evaluation body system. Hospitalization among service members evaluated for disability was most commonly associated with a mental health diagnosis, which is in contrast to hospitalizations among the general active duty population where injuries and fractures are more commonly associated with hospitalization. When considering the most common reasons for hospitalization by body system, the primary diagnoses at hospitalization often corresponded to the body system evaluated for disability.

Based on the data presented in this report and the variability observed in service disability evaluation system data, we present the following programmatic recommendations:

1. Include Medical Evaluation Board (MEB) International Classification of Disease 9th Revision (ICD-9) diagnoses in all disability evaluation records, allowing for more in depth analyses of the specific medical conditions that result in disability evaluation, separation, and retirement.

2. Record each service member's Military Occupational Specialty (MOS) and level of education at the time of disability evaluation.

3. Include variables to indicate whether medical condition for which a service member is undergoing disability evaluation was due to trauma or injury and date of initial diagnosis, onset of symptoms, or injury.

4. Develop standards for entry of Veterans Affairs System of Rating Disabilities (VASRD) codes in each service's DES database, to ensure standard usage of VASRD codes and associated analogous codes across services.

5. Include a variable in all databases that notes when multiple VASRD codes are used to rate a single condition.

6. Standardize the combat data fields collected across the services' DES databases.

Current Studies

Epidemiology of Disability in the U.S. military, 2005-2010: Causes of Disability, Ratings and Deployment

Military disability research has been largely limited to Army populations or focused on musculoskeletal disabilities. This study examines unfitting medical conditions evaluated, rating, and history deployment among the population evaluated for a disability discharge in all services. Service members evaluated for disability between 2005 and 2010 were included in this study. Disability data were obtained from each service's electronic disability database. Deployment history, accession information, and aggregate service population counts, used in the calculation of rates, were obtained from the Defense Manpower Data Center. Incidence of disability evaluation was highest in the Army and Marine Corps. Overall, separated with severance pay was the most common disposition (42%), followed by disability retirement (34%). Disability ratings varied by service and condition; neurological and psychiatric conditions were rated higher than other conditions. Deployment was significantly associated with psychiatric and neurological disability. Future research is necessary to further investigate the inter-service variations in the relationship between deployment and disabling medical conditions.

Objectives:

1. Describe the epidemiology of disability in the US military by branch of service, medical conditions evaluated, and disability ratings.

2. Compare and contrast the rate of deployment among service members evaluated for disability by service and medical condition which resulted in disability.

Accession Audiograms Predict Hearing Loss Disability among Soldiers and Marines

Hearing loss (HL) is the most common service-connected disability in veterans within the Veterans Affairs disability evaluation system. Deployment and blast exposure have been examined as predictors of HL with little attention paid to hearing deficiency pre-existing at accession. This study examines the relationship between accession audiograms and disability discharge related to HL. Cases were Soldiers and Marines evaluated for disability discharge related to HL fiscal years 2003-2010. Controls were frequency matched 5:1 to cases by year of accession. Results of this study may provide an opportunity to review accession policy to reduce the burden of HL disability among Soldiers and Marines.

Objective:

1. Describe the morbidity, including healthcare utilization and disability discharge, associated with abnormal hearing at accession.

Epidemiology of Disabilities Related to Traumatic Brain Injury in the U.S. Army and Marine Corps: 2005-2010

Traumatic brain injury (TBI) is a major cause of disability among Soldiers and Marines. Little is known about the contribution of TBI to disability. All disability evaluations conducted on Army and Marine Corps between FY 2005 and FY 2010 were utilized for this study. Cases were defined as individuals with a Veteran's Affairs Schedule of Ratings (VASRD) code of 8045. Service members evaluated for disability for conditions other than TBI were used as a comparison group. Rates of TBI have increased in both services since 2005 and most TBI cases are retired with a rating of 30% or higher. Medical retirement is significantly more likely in TBI cases when controlling for other factors. Comorbid disability conditions, including posttraumatic stress disrder and demnetia, were present in the majority of TBI cases. TBI is a common and complex condition among troops. The high disability percent rating indicates a high degree of severity of TBI among this population.

Objectives:

1. Describe the epidemiology of TBI disability in the Army and Marine Corps.

2. Determine the independent odds of retirement in TBI as compared to all other types of disability, controlling for other factors.

3. Compare unfitting conditions of TBI disability cases to the unfitting conditions present in non-TBI disability cases.

Accession Characteristics as Predictors of Traumatic Brain Injury Disability: 2005-2010

Traumatic Brain Injury (TBI) is an important cause of morbidity among young adults in both the military and civilian population. Described as the signature injury of the wars in Iraq and Afghanistan, TBI has increased in prevalence among the military disability population since 2005. Many studies have examined the relationship between deployment and combat exposures and TBI. The objective of this study is to describe the relationship between pre-existing medical conditions and pre-deployment health and disability evaluation for TBI. Individuals who underwent disability evaluation for TBI in either the Army or Marine Corps between 2005 and 2010 were eligible for inclusion in this study. Cases without an accession record between 2000 and 2010 were excluded from the study populations as were individuals without a medical examination record from a MEPS within the two years prior to their accession record. Controls were frequency matched to cases based on year of accession and service of accession. The same exclusion criteria with respect to accession and MEPS records were applied to controls as cases. This study will compare cases and controls based on pre-accession health status, deployment history, and timing of incident diagnosis.

Objectives:

1. Determine the relationship between pre-existing conditions and TBI risk.

2. Describe the timing of incident TBI disability cases as compared to matched controls.

3. Compare deployment in TBI disability cases to deployments of matched controls.

Pre-existing Conditions and Disability Due to Arthritis in the Army and Marine Corp: 2005-2010

Musculoskeletal conditions are a common cause of disability in both the Army and Marine Corps. Several studies of military cohorts have found characteristics of service members prior to accession are associated with musculoskeletal injury early in service. However, no studies have assessed the relationship between accession level risk factors and a disability evaluation for a musculoskeletal condition. Arthritis disability cases were identified using VASRD codes (5002-5010, 5242) assigned at the time of evaluation for disability discharge from the Army or Marine Corps. Controls were randomly selected from the population of Army and Marine Corps accession who had not undergone disability evaluation and were frequency matched to cases on year of accession and service at a ratio of 1:5. Accession and service characteristics for cases and controls were obtained from DMDC accession and deployment records. Information on pre-existing medical conditions was obtained from MEPS physical examination records and accession medical waivers granted by the service waiver authorities. Data on healthcare encounters was obtained from ambulatory records.

Objectives:

1. Determine the relationship between pre-existing conditions and risk of arthritis disability evaluation.

2. Compare and contrast the timing of incident musculoskeletal diagnosis in cases and controls.

Risk Factors for Dorsopathy-Related Disability in the Army and Marine Corp: 2005-2010

Injuries and diseases of the back and spine are common causes of morbidity in both the civilian and military population. Dorsopathies are the most common reason for musculoskeletal disability evaluation. This study will evaluate the role of pre-existing musculoskeletal conditions and deployment as predictors of dorsopathy-related disability in the Army and Marine Corps. Cases were selected from the population of individuals who were evaluated for a disability discharge from the Army or Marine Corps as a result of injuries or diseases of the back and spine, including strain, weakness, stenosis, spondylitis, as well as fractures. Controls, randomly selected from the population of accession that had not undergone disability evaluation, were frequency matched to cases on year of accession and service at a ratio of 1:5. History of deployment, accession demographic characteristics, and pre-existing medical conditions will be assessed as a risk factor for dorsopathy-related disability. In addition, this study will examine the period of service in which the incident dorsopathy related injury or disease occurred, comparing the distribution of incident diagnosis by period of service in cases and controls.

Objectives:

1. Assess the role of deployment and pre-existing medical conditions in the risk of dorsopathy-related disability evaluation.

2. Describe the timing of incident diagnoses in cases and controls by deployment history.

Publications and Presentations

Temporal Trends in the Epidemiology of Disabilities Related to Posttraumatic Stress Disorder in the U.S. Army and Marine Corps: 2005-2010

Elizabeth R. Packnett, MPH; MAJ Marlene E. Gubata, MD, MPH; David N. Cowan, PhD, MPH; David W. Niebuhr, MD, MPH, MS

Journal of Traumatic Stress, 2012, In press.

Temporary Disability Retirement Cases: Variations in Time to Final Disposition and disability Rating by Service and Medical Condition

Amanda L. Piccirillo, MPH; MAJ Marlene E. Gubata, MD, MPH; Caitlin D. Blandford, MPH; Elizabeth R. Packnett, MPH; David N. Cowan, PhD, MPH; COL David W. Niebuhr, MD, MPH, MS

Military Medicine, 2012,177, 4: 417-422

Objective: Service members undergoing disability evaluation are placed on the temporary disability retirement list (TDRL) when their disabling medical condition(s) may change in severity over time. Information is sparse on the epidemiology of the TDRL population and factors influencing time spent on the TDRL or changes in compensation ratings before final disability outcome.

Methods: A cross-sectional study was conducted on U.S. Army, Navy, and Marine Corps personnel placed on the TDRL between fiscal years 2005 to 2009.

Results: Approximately 85% of cases were finalized at first re-evaluation and more than 75% were permanently retired. Overall, about 50% of cases retained the same disability rating throughout the process. Cases with medical conditions within two or more body systems were more likely to be permanently retired and receive a change in disability rating than those with medical condition(s) within a single body system.

Conclusions: Most cases retained the same disability rating and were permanently retired by the first re-evaluation. Important areas of future research include cost–benefit analyses to determine if length of time currently allowable on the TDRL can be shortened or if repeated evaluations are necessary and exploration of specific medical conditions likely to change in severity over time.

Risk Factors for Medical Disability in U.S. Enlisted Marines: Fiscal Years 2001 to 2009

CDR Cynthia Sikorski, MD, MPH; CAPT Maura A. Emerson, MD; David N. Cowan, PhD, MPH; COL David W. Niebuhr, MD, MPH, MS

Military Medicine, 2012,177, 2: 128-134

Objective: To assess factors associated with medical disability in the U.S. Marine Corps.

Methods: Case–control study enrolling 11,554 medical disability cases of U.S. enlisted Marines referred to the Physical Evaluation Board fiscal year 2001 to 2009 and 42,216 controls frequency matched to cases in a 4:1 ratio on year of accession into the service were analyzed utilizing bivariate and multivariate logistic regression analysis.

Results: Increased age and body mass index at accession were associated with higher odds of medical disability. Females (odds ratio adjusted [ORadj] = 1.3, 95% confidence interval [CI] = 1.2–1.3) have higher odds of disability than males. “Healthy Warrior Effect” was observed in that those who deployed (ORadj = 0.48, 95% CI = 0.46–0.50) had decreased odds of medical disability than those who did not deploy. Medical waivers at accession (ORadj = 1.12, 95% CI = 1.01–1.23) increased the odds of medical disability.

Conclusions: Continued surveillance of the disability evaluation system is needed to help develop preventive measures and to help policy makers establish evidence-based policies on accession, deployment, and retention standards over the lifecycle of service members.

Comorbidity Associated with Traumatic Brain Injury Disability among U.S. Army Disability Cases: 2005-2010

Caitlin D. Blandford, MPH; Marlene E. Gubata, MD, MPH; Elizabeth R. Packnett, MPH; Amanda L. Piccirillo, MPH; David N. Cowan, PhD, MPH; David W. Niebuhr, MD, MS, MPH

Presented to the American Public Health Association, Annual Meeting, October 2011

Background: Traumatic brain injury (TBI) is a major cause of disability among soldiers. However, the contribution of TBI and the related comorbidities to disability is not well understood.

Methods: All active duty soldiers evaluated for TBI-related disability in FY2005-2010 were included. Individuals with a Veterans Affairs Schedule of Ratings (VASRD) code of 8045 were defined as TBI cases (n=2,823). TBI cases were classified into groups based on the presence of other VASRD codes for mental health conditions at time of evaluation. Inpatient diagnoses listed in medical records generated within two years of disability evaluation were examined for each TBI case group.

Results: Overall, 30% of TBI cases were hospitalized in the two years prior to disability evaluation. Hospitalization was most common in TBI cases with comorbid PTSD (40%). Skull fractures were the most prevalent inpatient diagnosis, but were more prevalent in TBI cases without comorbid psychiatric conditons. Concussions were more prevelant in TBI with comorbid psychiatric conditions. Deployment was most common in those with TBI and PTSD (99%) and these cases were most likely to have inpatient psychiatric diagnoses.

Discussion: Clinical patterns and deployment history vary when comparing TBI cases in terms of psychiatric comorbid disability. Understanding the role of deployment, combat exposures, and pre-existing medical conditions in the risk of TBI disability with and without psychicatric morbidity is essential to reduce the morbidity associated with TBI in service members and to target interventions for soldiers who experience a TBI.

Temporal Trends in the Epidemiology of Posttraumatic Stress Disorder Related Disability in the U.S. Army: 2005-2010

Elizabeth R. Packnett, MPH; Marlene E. Gubata, MD, MPH; Caitlin D. Blandford, MPH; David N. Cowan, PhD, MPH; David W. Niebuhr, MD, MPH, MS

Presented to the American Public Health Association, Annual Meeting, October 2011

Background: The incidence and prevalence of posttraumatic stress disorder (PTSD) in the US military have increased in recent years as a result of ongoing combat operations in Iraq and Afghanistan. Recent changes in PTSD-related disability policy in the military are expected to change the population of service members evaluated for PTSD. However, little research is available describing recent trends in the epidemiology of disability discharges for PTSD.

Methods: Disability evaluations for PTSD-related disability among Army personnel that began between FY 2005 and FY 2010 were included in this analysis (n=8,615). Data on unfitting conditions, rating, and disposition were obtained from the US Army Physical Disability Agency. Rates were calculated per 10,000 service members, using aggregate service population data from the Defense Manpower Data Center, and were stratified by year to describe temporal trends.

Results: Rates of PTSD disability increased substantially in the US Army from 2005 to 2010. In 2010 the rate of PTSD disability was more than four times the rate in 2005. Increases in disability rating of PTSD have also been observed. In 2010 95% of PTSD disability was rated higher than 30% and medically retired, as compared to 2005 when 9% of PTSD disability was rated higher than 30%.

Discussion: Increasing rates of PTSD disability in the Army accompanied by increasing ratings indicate changes in PTSD disability during the period from 2005 to 2010. Further research is necessary to determine the association of changes in combat exposures, risk factors, comorbidity, and disability policy with PTSD disability.

Temporal Trends in the Epidemiology of Psychiatric Disability in the U.S. Army: 2005-2010

Elizabeth R. Packnett, MPH; Marlene E. Gubata, MD, MPH; Caitlin D. Blandford, MPH; David N. Cowan, PhD, MPH; David W. Niebuhr, MD, MPH, MS

Presented to the American Public Health Association, Annual Meeting, October 2011

Background: Psychiatric conditions in US military personnel are of increasing interest to military policy makers, particularly as risk factors for suicide and posttraumatic stress disorder (PTSD). Assessments of mental health before and after deployments have increased the diagnosis of psychiatric conditions and referrals to mental health professionals. However, little research is available describing recent trends in the epidemiology of disability discharges for psychiatric conditions.

Methods: Disability evaluations for psychiatric disability among Army personnel that began between FY 2005 and FY 2010 were included in this analysis (n=15,297). Data on unfitting conditions, rating, and disposition were obtained from the US Army Physical Disability Agency. Rates were calculated per 10,000 service members, using aggregate service population data from the Defense Manpower Data Center, and were stratified by year to describe temporal trends.

Results: Rates of psychiatric disability have doubled in the US Army from 2005 to 2010. The proportion of psychiatric disability cases related to PTSD has increased from 3% in 2005 to 68% in 2010. Increases in disability rating of psychiatric conditions have also been observed. In 2010 93% of psychiatric disability was rated higher than 30% and medically retired, as compared to 2005 when 16% of psychiatric disability was rated higher than 30%.

Discussion: Increasing rates of psychiatric disability in the Army accompanied by increasing ratings indicate changes in psychiatric disability during the period from 2005 to 2010. Further research is necessary to determine the association of changes in combat exposures, risk factors, comorbidity, and disability policy with psychiatric disability.

Introduction to the Disability Evaluation System

The Disability Evaluation System (DES) process follows guidelines laid out by the Department of Defense (DoD) and public law. Disability evaluation is administered at the service level, with each branch of service responsible for the evaluation of disability in its members. While inter-service differences exist, the disability evaluation process for all services includes two main components: an evaluation by the Medical Evaluation Board (MEB), and a determination by the Physical Evaluation Board (PEB) of a service member's ability to perform his/her military duties [1,2].

The disability evaluation process is described in Department of Defense Instruction 1332.38 and serves as the basis for each service's disability evaluation [3]. The process of disability evaluation begins when a service member is diagnosed with a condition or injury at a Military Treatment Facility (MTF). If the condition or injury is considered potentially disqualifying or significantly interferes with the service member's ability to carry out the duties of his/her office, grade, or ranking, the case is referred to the MEB. Service members who meet medical standards or deemed capable of carrying out his/her duties are returned to duty [1-2,4-6]. Those unable to perform assigned duties are forwarded to an Informal Physical Evaluation Board (IPEB) for a medical record review, and a determination regarding a service member's fitness for continued military service. Members deemed fit are returned to duty, while those deemed unfit are discharged or placed on limited duty. In the event a service member is dissatisfied with the determination made by the IPEB, he/she can appeal to the formal PEB (FPEB) and eventually to the final review authority (which varies by service, as detailed below) if the case is not resolved to the service member's satisfaction.

Key variables collected at each stage of disability processing are shown in Figure 1. At the MEB, each case is diagnosed and it is determined whether the service member is able to perform assigned duties [4-6]. Cases are forwarded to the IPEB if it is determined that the member cannot perform his/her assigned duties or that the member does not meet medical retention standards. The IPEB panel must determine the member's fitness, and disability rating using the appropriate Veterans Affairs Schedule of Rating Disability (VASRD) code for the disabling condition, the appropriate disposition for the case and whether the condition is combat related [1]. If a service member does not agree with the determination of the IPEB, the decision can be appealed to the FPEB, and eventually to the final reviewing authority (Service Secretary), where the determination of the FPEB is reviewed. The FPEB is an independent board from the IPEB and the decision may be different from that of the IPEB. The final reviewing authority can either concur with the FPEB or revise the determination.

Figure 2 and Figure 3 describe the Army and Navy/Marine Corps disability evaluation processes, respectively. Those who meet medical retention standards at the MEB or are able to continue military duties are returned to duty, while cases that do not meet medical retention standards, in the Army, or are not able to perform military duties, in the Navy and Marine Corps, are forwarded to the IPEB for further review. The IPEB makes a fit/unfit determination and the service member is either returned to duty (deemed fit) or medically discharged (deemed unfit) and assigned a disposition and rating. Dispositions assigned include separated without benefit, separated with severance pay, permanent disability retirement, or temporary disability retirement. Ratings vary from 0-100% disability. Those assigned a disposition of separated without benefits are either unrated or rated 0%. Separated with severance pay carries a rating varying from 0% to 20%; while permanent and temporary disability retirement carry ratings of 30% or higher.

The member can appeal the IPEB determinations of disposition and rating, though appeals to the FPEB may be denied if a member is deemed fit by the IPEB. Following service member appeal of the IPEB, the case is reviewed by the FPEB or reconsidered by the IPEB, again determining the fitness of the service member. An Army service member can appeal the FPEB determination to the United States Army Physical Disability Authority (USAPDA); the USAPDA is the final appeal authority before separation or retirement. A Navy or Marine Corps service member can appeal an FPEB determination to the Secretary of the Navy; the Secretary of the Navy is also a final appeal authority before separation or retirement from service. In the Navy and Marine Corps, all discharge recommendations are forwarded to the Service Headquarters where the recommendation for discharge can be accepted or denied (Figure 3). Both Services (Department of the Army and Navy) have a Board for Correction of Military Records which can be petitioned once a service member has left military service.

The Air Force disability evaluation process is described in Figure 4. The Air Force disability evaluation process is generally similar to that of the other services; disability evaluation begins with the MEB where cases are evaluated against medical retention standards, those not meeting retention standards are referred to the IPEB (4). If a service member disagrees with the decision of the IPEB, it can be appealed to the FPEB, and eventually to the Secretary of the Air Force. However, in contrast to other services, MEB cases not forwarded to the IPEB can be appealed through the Air Force Surgeon General to determine if a case should be forwarded to the IPEB.

The objective of this report is to summarize the content of existing databases, to provide a basis for future studies of risk factors for disability evaluation, separation, and retirement. Though the general process for evaluating service members for disability discharge is similar across services, each service completes disability evaluation and collects and maintains disability evaluation data independent of one another. Small variations are present in the disability evaluation process across services and in the types of data collected across services. The Accession Medical Standards Analysis and Research Activity was established in 1996 for the purpose of supporting the development of evidence-based medical accession standards to mitigate morbidity and attrition among service members, and has received annual data extracts from the Army, Navy, and the Air Force since that time. These data were initially requested for the purpose of evaluating accession standards. AMSARA has been tasked by the Office of the Assistant Secretary of Defense, Health Affairs, since FY 2009, to perform an audit of tri-service disability evaluation systems using existing AMSARA databases.

FIGURE 1: KEY VARIABLES COLLECTED AT EACH STAGE OF DISABILITY EVALUATION

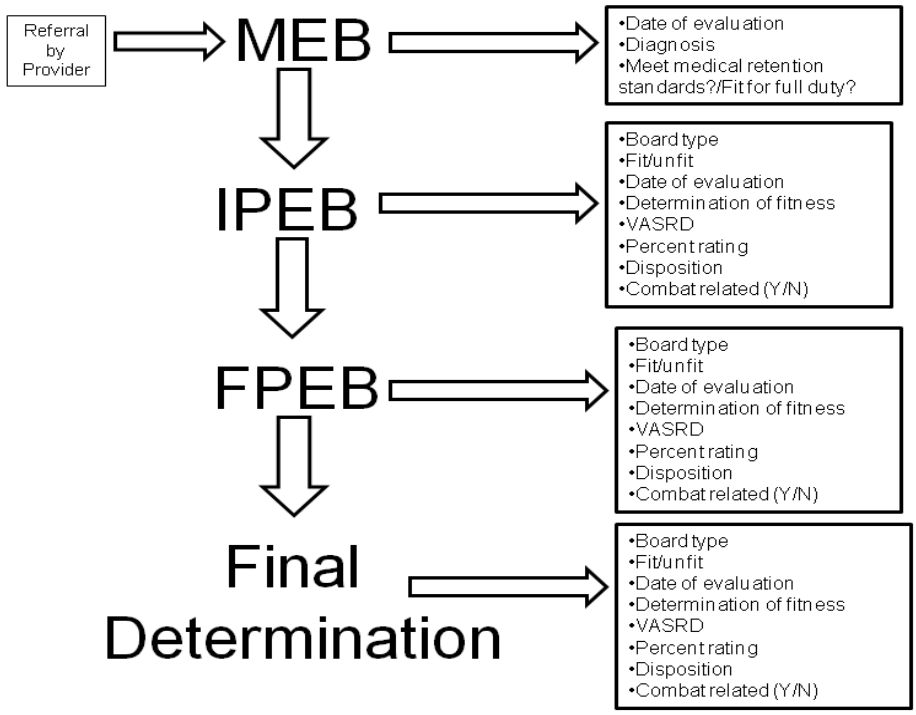
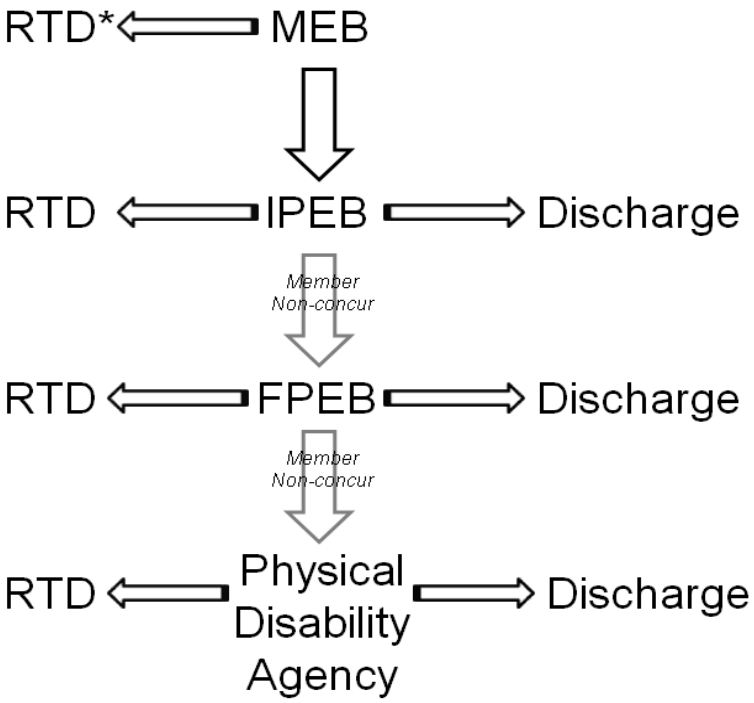
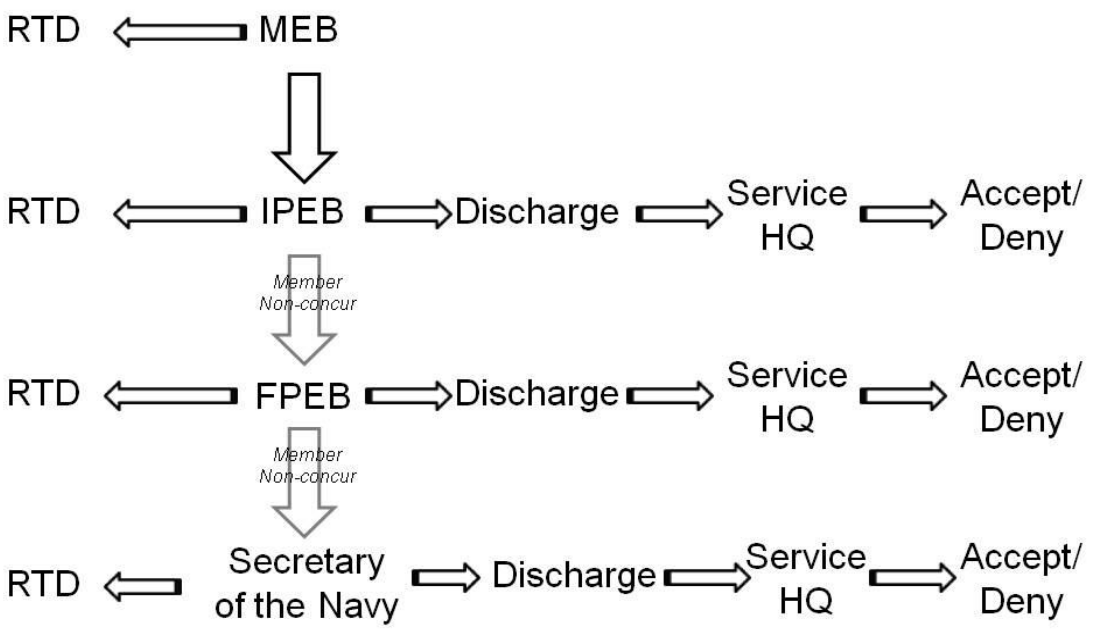


FIGURE 2: DISABILITY EVALUATION IN THE ARMY



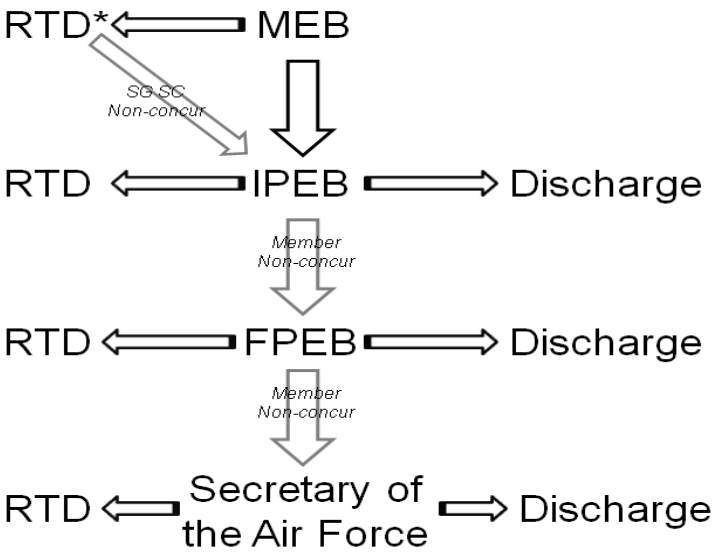
* RTD may be full or restricted duty per AR 40-501

FIGURE 3: DISABILITY EVALUATION IN THE NAVY AND MARINE CORPS*



*Secretary of the Navy Instruction 1850.4E

FIGURE 4: DISABILITY EVALUATION IN THE AIR FORCE



* RTD may be full or restricted duty per Air Force Instruction 48-123

Methods

Study Population

Table 1 shows the characteristics of the DES datasets, initially requested by AMSARA for accession research, by service. Databases maintained by the services may contain information not sent to AMSARA. Disability evaluation data were available for all services for enlisted and officers as well as active duty and reserve components. However, the types of records received from each service varied. All PEB evaluations for separately unfitting conditions in the Army, Navy and Marine Corps were transmitted to AMSARA for all years in which data are available. Air Force disability data only includes disability retirements and separations in years prior to FY 2007. In addition, while Army and Navy/Marine Corps send AMSARA multiple disability evaluations for individuals for all years in which data are available, multiple disability evaluations for the Air Force are not available for the Air Force evaluations. To enhance the comparability of the disability population across service and across years within the same service, only data on disability evaluations between FY 2007 and FY 2011 are presented for the Air Force.

TABLE 1: CHARACTERISTICS OF DES DATABASES BY SERVICE

	Army	Navy/Marine Corps	Air Force
Years received	1990-2011	2001-2011	2007-2011
Type of evaluations included	All PEB	All PEB	All but TDRL Re-evaluations
Ranks included	Enlisted, Officer	Enlisted, Officer	Enlisted, Officer
Components included	Active Duty, Reserve	Active Duty, Reserve	Active Duty, Reserve
Multiple evaluations per individual?	Yes	Yes	No

To create analytic files for this report, service-specific databases were restricted to unique records with a final disposition date between October 1, 2006 and September 30, 2011. All ranks and components were included in these analyses. Multiple records were available at the individual level, defined using Social Security Number (SSN), for all services. When *individuals* were the unit of analysis, the last record per SSN was retained; when *evaluations* were the unit of analysis, multiple records were used per SSN. Unique evaluations were defined by SSN and date of final disposition. Therefore, an individual may appear more than once in the source population when evaluations are the unit of analysis.

Variables

Table 2 shows the key variables included in each DES dataset received by AMSARA. Additional variables are included in each services database, but not presented in this report. Variables in the DES databases fall into four general categories: demographic characteristics, MEB variables, PEB variables, and combat variables.

Demographic Characteristics

Demographic variables including age at disability evaluation, date of birth, gender, race, rank, and component are available in all databases except Air Force databases. Education was not available in any DES database and MOS was available only for all years in Army data received by AMSARA. AMSARA has traditionally utilized demographic variables from other sources, such as Defense Manpower Data Center (DMDC) personnel records and MEPS records, in the analysis of demographic variables and these sources can be used in combination with disability databases to obtain information on certain constant demographic characteristics (i.e. date of birth, race, gender). Demographic characteristics of individuals evaluated for disability in the Air Force are obtained using DMDC and MEPS records. Characteristics which can vary over time, such as education, rank, component, and MOS, are most valuable when collected at the time of disability evaluation.

MEB variables

Date of MEB evaluation is present in all disability databases. However, MEB diagnosis is only available for Navy/Marine Corps disability evaluations. For Navy/Marine Corps evaluations, the MEB diagnosis is recorded as a text field rather than as a code. Recoding of this field into ICD-9 codes by a nosologist will be necessary before further analysis of this field can be conducted.

PEB variables

All AMSARA datasets contain several key variables regarding the PEB evaluation including board type, date of PEB evaluation, VASRD and analogous codes, percent rating, disposition, and disposition date. VASRD codes, specific for the unfitting condition, and analogous coding that utilizes a VASRD code that best approximates the functional impairment rendered by a medical condition for which there is no specific VASRD code, are used to define unfitting medical conditions which prompted the disability evaluation. These codes are not diagnostic codes, but are derived from the MEB diagnosis, and specify criteria that are associated with disability ratings that determine disability compensation. The number of VASRD codes assigned to an individual diagnosis varies by service. In the Army each condition can have one VASRD code and one analogous code, with up to four conditions included per evaluation. Up to three VASRD codes are used for the same condition in the Air Force with up to 14 conditions per evaluation. In the Navy and Marine Corps, the number of VASRD codes per condition is unlimited and there is no limit the number of conditions that can be assigned to an evaluation.

TABLE 2:KEY VARIABLES INCLUDED IN DES DATABASE BY SERVICE

	Army	Navy/Marine Corps	Air Force
Demographic Characteristics[1]			
Age/DOB	Y	Y	N
Gender	Y	Y	N
Race	Y	Y	N
Education	N	N	N
Rank	Y	Y	Y
Component	Y	Y	Y
MOS	Y	FY10-11	N
MEB			
Date of MEB Evaluation	Y	Y	Y
MEB diagnosis	N	Y	N
PEB			
Board type	Y	Y	Y
Date of PEB Evaluation	Y	Y	Y
VASRD	Y	Y	Y
VASRD Analog	Y	Y	Y
Percent Rating	Y	Y	Y
Disposition	Y	Y	Y
Disposition Date	Y	Y	Y
COMBAT			
Combat[2]	Y	N	N
Combat Related	Y	Y	Y[3]
Combat Zone	Y	Y	N
On duty	Y	N	Y[3]
Armed Conflict	N	Y	Y[3]
Instrumentality of War	N	Y	Y[3]

[1]Demographic characteristics at time of disability evaluation.
[2]Includes instrumentality of war, armed conflict, or other criteria.
[3] Combat variables are available in FY 2010 and 2011 only.

There are two general disposition types for members determined unfit for duty: separation and disability retirement. Separations can be administered with or without severance pay and are further classified as separated with severance and separated without benefits. Severance pay is given when a service member's condition is found to be unfitting and assigned a disability rating between 0 and 20 percent. Separation without benefits occurs when a service member is found unfit for duty, but the condition is determined to have occurred as a result of misconduct, negligence, or, if the member has less than eight years of service and the condition is the result of a medical condition that existed prior to service.

Disability retirements can be classified as either permanent disability retirement or temporary disability retirement. Permanent disability is assigned when the member is found unfit, and either has a length of service greater than 20 years or has a disability rating that is 30 percent or higher, and the condition is considered unlikely to improve or worsen. Temporary disability is assigned when a member is deemed unfit for continued service and either has a length of service greater than 20 years or has a disability percent rating of 30 percent or higher. However, those with temporary disabilities differ from those with permanent disabilities in that their condition, while considered disabling, is not considered stable for purposes of rating. Service members placed on the temporary disability retirement list (TDRL) are re-evaluated every 6-18 months, for up to five years following initial placement on the TDRL. Once the unfitting condition is considered stable for purposes of rating by the PEB, the case is assigned a final disposition and percent rating. Therefore, a re-evaluation may result in a service member returning to duty or converting to any other disposition, though most on the TDRL eventually convert to permanent disability retired [1].

Combat Variables

Data received by AMSARA from the Army, Navy, and Marine Corps include variables regarding combat; the values of which are described per the DoDI 1332.38 [6]. These variables are used as a part of the percent rating determination taking into account if the disability was caused by, exacerbated by, or had no relation to combat experiences.

Combat indicates the physical disability is a disease or injury incurred in the line of duty in combat with an enemy of the United States as defined by the U.S. State Department [6,7].

Combat related is the standard that covers those injuries and diseases attributable to the special dangers associated with armed conflict or the preparation or training for armed conflict. [6,7].

Line of duty indicates that the injury or disease of a member performing military duty was incurred in a duty status; if not in a duty status, whether it was aggravated by military duty; and whether incurrence or aggravation was due to the member's intentional misconduct or willful negligence [6,7].

Armed conflict is described as the physical disability being a disease or injury incurred in the line of duty as a direct result of armed conflict. There must be a definite causal relationship between the armed conflict and the resulting unfitting disability. Armed conflict includes a war, expedition, occupation of an area or territory, battle, skirmish, raid, invasion, rebellion, insurrection, guerrilla action, riot, or any other action in which Service members are engaged with a hostile or belligerent nation, faction, force, or terrorists. Armed conflict may also include such situations as related to prisoner of war or detained status [6,7].

Instrumentality of war is described as a vehicle, vessel, or device designed primarily for Military Service and intended for use in such Service at the time of the occurrence of the injury. There must be a direct causal relationship between the use of the instrumentality of war and the disability, and the disability must be incurred incident to a hazard or risk of the service [6,7].

Other Data Sources

Applications for Military Service

AMSARA receives data on all applicants who undergo an accession medical examination for active duty or reserve service at any of the 65 Military Entrance Processing Stations (MEPS) sites. These data, provided by US Military Entrance Processing Command (USMEPCOM) Headquarters (North Chicago, IL), contain several hundred demographic, medical, and administrative elements on enlisted applicants for each applicable branch (regular, reserve, National Guard) of each service (Air Force, Army, Marine Corps, and Navy). These data also include records on a relatively small number of officer recruit applicants and other non-applicants receiving periodic physical examinations.

Accession Medical Waivers

AMSARA receives records on all recruits considered for an accession medical waiver, i.e. those who received a permanent medical disqualification at the MEPS and sought a waiver for that disqualification. Each service is responsible for its own waiver decisions about applicants, and information on these decisions is generated and provided to AMSARA by each service waiver authority. Specifically, AMSARA receives medical waiver data annually from Air Education Training Command (Lackland AFB, TX) for the Air Force; US Army Recruiting Command (USAREC, Fort Knox, KY) for the Army; US Navy Bureau of Medicine and Surgery (BUMED, Washington, DC) for the Marine Corps; the Office of the Commander, US Navy Recruiting Command (Millington, TN) for the Navy.

Accession and Discharge Records

The DMDC (Defense Manpower Data Center) provides data on individuals entering military service and on individuals discharged from military service. Data are provided to AMSARA annually for active duty accessions into service and discharges from military service.

Hospitalizations

AMSARA receives Military Health System (MHS) direct care hospitalization data annually from the MHS data repository. These data contain information on admissions of active duty officers and enlisted personnel, as well as medically eligible reserve component personnel, to any military hospital.

Results

Descriptive Statistics for All Disability Evaluations

Service-specific characteristics of DES records are shown in Table 3. For the purpose of these analyses, and throughout this report, records are defined as units of a dataset (i.e. lines of data). In the Army and Air Force, one record contains multiple conditions per individual while in the Navy and Marine Corps the number of records is representative of the number of conditions adjudicated. Evaluations represent an individual's unique encounter with the PEB, defined using SSN and date of final decision. Therefore, each individual in this report may have more than one evaluation. The Army has more records, evaluations, and individuals evaluated for disabilities than the other services. The highest number of records per evaluation is found in the Navy (3.3) and Marine Corps (3.6). Across services the average number of evaluations per individual is only slightly higher in the Navy (1.3) and Marine Corps (1.3), relative to the Army (1.1) and Air Force (1.0). The average number of VASRD codes assigned per evaluation was highest in the Army (1.9).

Observed differences in the number of records, individuals, and evaluations can be partially accounted for by the differences in the types of records AMSARA received from each service. While the Army sends data on only those who were evaluated for an unfitting condition by the PEB, Navy/Marine Corps sends data on any individual evaluated by the PEB including those without any unfitting conditions. The inclusion of all PEB evaluations contributes a larger proportion of individuals without VASRD codes in the Navy/Marine Corps and thus a lower average across all records. TDRL re-evaluations are not included in the Air Force data which causes average evaluations/individual to be under-estimated.

TABLE 3: CHARACTERISTICS OF DES EVALUATIONS BY SERVICE: FY 2006-2011

	Army	Navy	Marine Corps	Air Force* (FY 07-11)
Total records	86,195	72,938	69,624	16,850
Total individuals	75,110	17,464	15,211	16,553
Total evaluations	86,183	21,901	19,473	16,850
Average records/evaluation	1.0	3.3	3.6	1.0
Average evaluations/individual	1.1	1.3	1.3	1.02
Non-TDRL	1.0	1.0	1.0	1.0
TDRL	1.8	1.7	1.7	1.0
Average VASRD/evaluation	1.9	1.6	1.8	1.5

Total DES evaluations are shown by service and fiscal year in Table 4. Individuals may be counted more than once in this table due to TDRL re-evaluations. Since 2006, the number of disability evaluations per year has remained relatively stable in the Army and Marine Corps. There is not wide variance in the proportion of total evaluations that occurred in each fiscal year between 2006 and 2011 in either service. Total evaluations per year in the Navy have decreased steadily since 2006. In the Air Force, the proportion of evaluations that occurs in each of the fiscal years shows more variation but appears to be relatively consistent since 2008.

TABLE 4 : TOTAL DES EVALUATIONS BY SERVICE AND FISCAL YEAR FY 2006-2011

	Army		Navy		Marine Corps		Air Force (FY 07-11)	
	Count	%	Count	%	Count	%	Count	%
2006	13,760	16.0	4,629	21.1	3,177	16.3	-	-
2007	13,538	15.7	4,306	19.7	2,957	15.2	2,267	13.5
2008	14,188	16.5	3,908	17.8	3,086	15.8	4,034	23.9
2009	15,818	18.3	3,171	14.5	3,071	15.8	3,117	18.5
2010	14,775	17.1	3,061	14.0	3,418	17.6	3,624	21.5
2011	14,104	16.4	2,826	12.9	3,764	19.3	3,808	22.6
Total	**86,183**		**21,901**		**19,473**		**16,850**	

Estimates of the percent of the total military population who underwent disability evaluation from 2006 to 2011 are shown in Table 5 by service and demographic characteristics. Numbers from 2011 are compared to the previous five years in aggregate. Because demographic information on Air Force disability evaluation is collected from accession and application files, which were not available for most evaluate Air Force disability evaluations, the estimated of the rate of evaluation are under-estimated in the Air Force. The rate of referral for disability evaluation per 1,000 service members was highest in the Army and Marine Corps during both 2011 and the previous five years. In all services, the rate of disability evaluation was higher in females and among enlisted and active duty service members. The rate of disability evaluation by age group varied slightly by service; in all services except Air Force and for all time periods the highest rate of evaluation was among those aged 25-29. Those reporting a race that was not black or white had the highest rate of disability

.

TABLE 5: RATE OF DES EVALUATION PER 1,000 SERVICE MEMBERS BY DEMOGRAPHIC CHARACTERISTICS AND SERVICE : FY 2006-2010 VS. FY 2011[¥†‡]

	2006-2010								2011							
	Army		Navy		Marine Corps		Air Force (FY07-10)		Army		Navy		Marine Corps		Air Force	
	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate
Sex																
Male	51,852	11.3	11,922	7.1	11,507	10.5	7,680	4.8	9,086	9.6	1,459	4.6	2,203	9.8	1,624	4.0
Female	12,065	14.3	3,567	11.3	1,225	17.2	3,456	8.6	2,047	11.6	470	7.2	262	16.9	832	8.3
Age																
<20	1,818	4.4	237	2.3	739	4.8	254	3.3	203	3.2	20	1.3	64	2.3	83	4.9
20-24	16,847	11.1	4,025	7.0	6,195	11.2	2,472	5.3	2,410	7.7	522	4.7	1,104	10.2	915	7.8
25-29	15,845	13.6	4,213	9.7	3,388	15.2	2,323	5.2	3,025	11.6	551	6.0	808	15.1	876	7.4
30-34	9,506	13.2	2,728	9.1	1,292	12.3	1,443	4.7	1,872	11.2	334	5.4	294	12.5	301	3.6
35-39	7,414	11.1	2,078	7.3	650	8.6	1,247	4.4	1,260	10.3	236	4.8	111	7.3	93	1.4
≥ 40	12,534	13.2	2,235	7.5	460	8.2	1,791	4.1	2,376	11.9	258	4.6	74	6.0	162	1.6
Race																
White	46,042	11.7	10,195	7.9	9,076	10.1	8,209	5.4	8,262	10.1	1,211	5.1	1,785	9.4	1,855	4.9
Black	12,305	12.2	2,902	8.0	1,106	9.5	1,642	6.0	1,927	9.3	303	4.6	188	7.8	407	6.0
	5,600	25.7	2,413	8.9	2,527	43.6	915	7.8	950	19.0	401	5.9	489	37.4	178	5.3
Rank																
Enlisted	59,693	12.9	14,383	8.7	12,342	11.8	11,522	7.0	10,456	11.0	1,811	5.7	2,403	11.2	3,371	8.2
Officer	4,222	5.2	1,150	3.4	402	3.4	1,320	3.5	667	3.8	119	1.8	64	2.5	340	3.6
Component																
Active Duty	52,940	19.8	14,370	8.7	11,574	11.9	11,107	8.5	9,740	17.4	1,832	5.7	2,364	11.8	3,107	9.4
Reserves	11,022	4.0	1,164	3.4	1,170	6.1	1,735	2.5	1,406	2.5	98	1.5	103	2.6	604	3.4
Total Individuals	**63,964**	**11.8**	**15,534**	**7.8**	**12,744**	**10.9**	**12,842**	**6.4**	**11,146**	**9.9**	**1,930**	**5.0**	**2,467**	**10.2**	**3,711**	**7.3**

[¥]Data on total service population was generated using data from Defense Manpower Data Center (DMDC) queries and represents the total number of service members with each demographic as of 30 September of the fiscal year in question.

[†]Air Force data do not include TDRL re-evaluations. Therefore total rates of disability are underestimated in the Air Force relative to other services.

[‡]Air Force does not provide data on demographic information for individuals evaluated for disability. Information on the demographic characteristics of Air Force Disability evaluations is obtained from applicant and accession records when available.

Characteristics of individuals who underwent disability evaluation from 2006 to 2011 are shown in Table 6, comparing 2011 evaluations to 2006 through 2010 in aggregate. The vast majority of disability evaluations are performed on enlisted, active duty personnel, regardless of service. Army and Air Force had higher percentages of Reserve component disability evaluations, likely due to the inclusion of National Guard service members not present in the Navy and Marine Corps reserve component. In addition, most individuals evaluated for disability were male, aged 20-29 at the time of disability evaluation, and white, in all four services.

TABLE 6: DEMOGRAPHIC CHARACTERISTICS OF INDIVIDUALS EVALUATED FOR DISABILITY AT TIME OF FIRST DISABILITY EVALUATION: FY 2006-2010 VS. FY 2011

	2006-2010								2011							
	Army		Navy		Marine Corps		Air Force (FY07-10)		Army		Navy		Marine Corps		Air Force	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Gender																
Male	51,852	81.1	11,922	76.7	11,507	89.9	7,680	59.8	9,086	81.6	1,459	74.9	2,203	89.5	1,624	43.8
Female	12,065	18.9	3,567	23.2	1,225	10.0	3,456	26.9	2,047	18.4	470	25.0	262	10.3	832	22.4
Missing	47	0.1	15	0.1	12	0.1	1,706	13.3	13	0.1	1	0.1	2	0.1	1,255	33.8
Age																
<20	1,818	2.8	237	1.9	739	6.3	254	2.0	203	1.8	20	1.5	64	5.8	83	2.2
20-24	16,847	26.3	4,025	26.3	6,195	49.8	2,472	19.2	2,410	21.6	522	30.4	1,104	47.0	915	24.7
25-29	15,845	24.8	4,213	26.1	3,388	24.9	2,323	18.1	3,025	27.1	551	26.4	808	29.3	876	23.6
30-34	9,506	14.9	2,728	17.0	1,292	10.1	1,443	11.2	1,872	16.8	334	16.2	294	9.3	301	8.1
35-39	7,414	11.6	2,078	13.4	650	5.1	1,247	9.7	1,260	11.3	236	12.4	111	5.1	93	2.5
≥ 40	12,534	19.6	2,235	15.1	460	3.8	1,791	13.9	2,376	21.3	258	12.8	74	3.2	162	4.4
Missing	-	-	18	0.1	20	0.1	3,312	25.8	-	-	9	0.4	12	0.4	1,281	34.5
Race																
White	46,042	72	10,195	66.8	9,076	71.9	8,209	63.9	8,262	74.2	1,211	62.5	1,785	67.7	1,855	50.0
Black	12,305	19.2	2,902	18.9	1,106	9.3	1,642	12.8	1,927	17.3	303	16.2	188	7.3	407	11.0
Other	5,600	8.8	2,413	14.2	2,527	18.6	915	7.1	950	8.5	401	20.8	489	24.4	178	4.8
Missing	17	<0.1	24	0.2	35	0.2	2,076	16.2			15	0.5	5	0.6	1,271	34.2
Rank																
Enlisted	59,693	93.4	14,383	92.8	12,342	96.8	11,522	89.7	10,456	94	1,811	92.4	2,403	97.3	3,371	90.8
Officer	4,222	6.6	1,150	7.2	402	3.2	1,320	10.3	667	6.0	119	7.7	64	2.8	340	9.2
Missing	49	0.1	1	0.0	-	-			23	0.2	-	-	-	-	-	-
Component																
Active Duty	52,940	82.8	14,370	91.8	11,574	90.6	11,107	86.5	9,740	87.4	1,832	94.7	2,364	92.0	3,107	83.7
Reserves	11,022	17.2	1,164	8.2	1,170	9.4	1,735	13.5	1,406	12.6	98	5.3	103	8.0	604	16.3
Missing	2	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Individuals	**63,964**		**15,534**		**12,744**		**12,842**		**11,146**		**1,930**		**2,467**		**3,711**	

‡Air Force does not provide data on demographic information for individuals evaluated for disability. Information on the demographic characteristics of Air Force Disability evaluations is obtained from applicant and accession records when available.

The distribution of unfitting conditions by body system for each service is shown in tables 7A through 7D. Classification of an individual's conditions into body system categories is not mutually exclusive and individuals may be included in more than one body system category in cases of multiple conditions. Counts presented in each table represent the number of individuals evaluated for one or more conditions in a given body system. Percentages represent the percent of individuals among all individuals evaluated for disability that were evaluated for disability in a given body system. In all services, musculoskeletal conditions were the most common type of disability evaluation followed by psychiatric and neurological conditions. The proportion of individuals evaluated for disability in 2011 with musculoskeletal, psychiatric, or neurological conditions increased significantly when compared to the previous five year period in all services except the Air Force. Disability evaluations for respiratory conditions were more common in the Air Force than in other services, nearly as common as neurological evaluations in 2011.

TABLE 7A: DISTRIBUTION OF UNFITTING CONDITIONS BY BODY SYSTEM CATEGORY: ARMY, FY 2006-2010 VS. FY 2011

Body System Category	2006-2010 Count	2006-2010 %	2011 Count	2011 %
Musculoskeletal	36,661	57.3	8,353	74.9
Psychiatric	12,850	20.9	5,280	47.4
Neurological	9,391	14.7	2,768	24.8
Respiratory	2,262	3.5	454	4.1
Digestive	1,119	1.8	268	2.4
Cardiovascular	976	1.5	239	2.1
Dermatologic	972	1.5	223	2
Endocrine	855	1.3	180	1.6
Genitourinary	770	1.2	187	1.7
Eyes and Vision	680	1.1	136	1.2
Ears and Hearing	666	1.0	164	1.5
Immune	241	0.4	57	0.5
Hemic/Lymphatic	225	0.3	60	0.5
Gynecologic	162	0.2	51	0.5
Dental and Oral	53	0.1	22	0.2
Other Sensory Disorders	7	<0.1	-	-
Total Individuals Evaluated	**63,964**		**11,146**	

TABLE 7B: DISTRIBUTION OF UNFITTING CONDITIONS BY BODY SYSTEM CATEGORY: NAVY, FY 2006-2010 VS. FY 2011

Body System Category	2006-2010 Count	2006-2010 %	2011 Count	2011 %
Musculoskeletal	4,441	37.4	860	55.9
Psychiatric	2,427	20.4	577	37.5
Neurological	2,437	20.5	445	28.9
Digestive	726	6.1	154	10.0
Endocrine	538	4.5	75	4.9
Genitourinary	282	2.4	73	4.7
Cardiovascular	318	2.7	54	3.5
Respiratory	238	2.0	51	3.3
Eyes and Vision	192	1.6	47	3.1
Hemic/Lymphatic	170	1.4	32	2.1
Dermatologic	134	1.1	25	1.6
Immune	137	1.2	25	1.6
Ears and Hearing	136	1.1	22	1.4
Gynecologic	77	0.6	13	0.8
Dental and Oral	15	0.1	4	0.3
Other Sensory Disorders	3	0.0	-	-
Total Individuals Evaluated	**11,886**		**1,538**	

TABLE 7C: DISTRIBUTION OF UNFITTING CONDITIONS BY BODY SYSTEM CATEGORY: MARINE CORPS, FY 2006-2010 VS. FY 2011

Body System Category	2006-2010 Count	2006-2010 %	2011 Count	2011 %
Musculoskeletal	5,492	49.1	1,658	72.7
Psychiatric	2,213	19.8	973	42.6
Neurological	2,424	21.7	761	33.3
Digestive	288	2.6	116	5.1
Respiratory	229	2.0	95	4.2
Eyes and Vision	220	2.0	66	2.9
Dermatologic	242	2.2	57	2.5
Genitourinary	187	1.7	56	2.5
Cardiovascular	166	1.5	49	2.1
Endocrine	218	2.0	44	1.9
Ears and Hearing	146	1.3	30	1.3
Hemic/Lymphatic	83	0.7	21	0.9
Immune	54	0.5	9	0.4
Gynecologic	22	0.2	7	0.3
Dental and Oral	19	0.2	4	0.2
Other Sensory Disorders	10	0.1	1	<0.1
Total Individuals Evaluated	**11,174**		**2,282**	

TABLE 7D: DISTRIBUTION OF UNFITTING CONDITIONS BY BODY SYSTEM CATEGORY: AIR FORCE, FY 2007-2010 VS. FY 2011

Body System Category	2007-2010 Count	2007-2010 %	2011 Count	2011 %
Musculoskeletal	4,013	44.6	1,443	47.4
Psychiatric	2,210	24.6	771	25.3
Neurological	1,636	18.2	516	16.9
Respiratory	998	11.1	470	15.4
Digestive	447	5.0	133	4.4
Cardiovascular	368	4.1	126	4.1
Endocrine	248	2.8	68	2.2
Genitourinary	168	1.9	45	1.5
Ears and Hearing	91	1.0	40	1.3
Dermatologic	120	1.3	36	1.2
Eyes and Vision	122	1.4	31	1.0
Immune	92	1.0	30	1.0
Hemic/Lymphatic	93	1.0	26	0.9
Gynecologic	54	0.6	13	0.4
Dental and Oral	13	0.1	2	0.1
Total Individuals Evaluated*	**9,001**		**3,047**	

*Individuals with a disposition of 'Fit' were excluded from this table

The leading VASRD categories (excluding analogous codes) that contributed to disability evaluations in the most common body system categories from 2006 to 2011, musculoskeletal, psychiatric and neurological conditions, are show in tables 8A through 8D. Classification of an individual's conditions into body system categories is not mutually exclusive and individuals may be included in more than one body system category in cases of multiple conditions. Like the body system categories, VASRD categories within a body system are not mutually exclusive and an individual is represented in multiple VASRD categories if he/she has more than one code. Therefore, percentages associated with VASRD categories within each body system can be interpreted as the percent of individuals in a VASRD category among all individuals with a condition in the body system.

Among musculoskeletal conditions, Dorsopathies were the most common musculoskeletal condition type in 2011 in the Army, Navy, and Air Force. In the Marine Corp, limitation of motion was the most common musculoskeletal condition in 2011. Dorsopathies have also increased in prevalence in the Army and Air Force in 2011 relative to previous years. Posttraumatic stress disorder was the most commonly diagnosed psychiatric condition among in Army and Marine Corps service members evaluated for disability in 2011 consistent with the previous five years. Posttraumatic stress disorder has increased in prevalence in the Army relative to previous years but decreased in the Marine Corps. In the Navy and Air Force, mood disorders were more common in psychiatric disability cases than posttraumatic stress disorder and the prevalence of mood disorder is similar when comparing 2011 to the previous five year period. Among neurological conditions, residuals of traumatic brain injury were the most common condition types in the Army and Marine Corps in 2011. In 2011, the proportion of traumatic brain injury among of Marine Corps cases decreased relative to the previous five years while Army cases of traumatic brain injury remained stable in 2011 as compared to previous years. Epilepsy was the most common neurological condition in the Navy while paralysis was most common in the Air Force throughout the period from 2006-2011.

TABLE 8A: MOST PREVALENT CONDITIONS WITHIN LEADING BODY SYSTEM CATEGORIES: ARMY, FY 2006-2010 VS. 2011

2006-2010			2011		
	Count	%		Count	%
Musculoskeletal	**36,661**	**57.3**	**Musculoskeletal**	**8,353**	**74.9**
Dorsopathies	17,279	47.1	Dorsopathies	4,551	54.5
Arthritis	13,872	37.8	Limitation of motion	2,745	32.9
Limitation of motion	5,629	15.4	Arthritis	2,149	25.7
Psychiatric	**12,850**	**20.9**	**Psychiatric**	**5,280**	**47.4**
Posttraumatic stress disorder	7,225	56.2	Posttraumatic stress disorder	3,878	73.4
Mood disorder	2,977	23.2	Mood disorder	1,160	22.0
Anxiety disorder	1,105	8.6	Anxiety disorder	454	8.6
Neurological	**9,391**	**14.7**	**Neurological**	**2,768**	**24.8**
Paralysis	2,516	26.8	Residuals of traumatic brain injury	796	28.8
Residuals of traumatic brain injury*	2,512	26.7	Paralysis	721	26.0
Migraine	1,510	16.1	Migraine	702	25.4
Total Individuals Evaluated	**63,964**		**Total Individuals Evaluated**	**11,146**	

*The definition associated with VASRD code 8045 changed in FY 2008 from 'brain disease due to trauma' to 'residuals of traumatic brain injury'.

TABLE 8B: MOST PREVALENT CONDITIONS WITHIN LEADING BODY SYSTEM CATEGORIES: NAVY, FY 2006-2010 VS. FY 2011

2006-2010			2011		
	Count	%		Count	%
Musculoskeletal	**4,441**	**37.4**	**Musculoskeletal**	**860**	**55.9**
Arthritis	1,635	36.8	Dorsopathies	236	27.4
Dorsopathies	1,619	36.5	Limitation of motion	223	25.9
Limitation of motion	1,034	23.3	Arthritis	137	15.9
Psychiatric	**2,427**	**20.4**	**Psychiatric**	**445**	**28.9**
Mood disorder	953	39.3	Mood disorder	174	39.1
Posttraumatic stress disorder	552	22.7	Posttraumatic stress disorder	112	25.2
Psychotic disorders	195	8.0	Anxiety disorder	33	7.4
Neurological	**2,437**	**20.5**	**Neurological**	**577**	**37.5**
Epilepsy	580	23.8	Epilepsy	60	10.4
New growth of brain	370	15.2	Paralysis	45	7.8
Paralysis	322	13.2	Migraine	32	5.5
Total Individuals Evaluated	**11,886**		**Total Individuals Evaluated**	**1,538**	

*The definition associated with VASRD code 8045 change in FY 2008 from 'brain disease due to trauma' to 'residuals of traumatic brain injury'.

TABLE 8C: MOST PREVALENT CONDITIONS WITHIN LEADING BODY SYSTEM CATEGORIES: MARINE CORPS, FY 2006-2010 VS. FY 2011

2006-2010			2011		
	Count	%		Count	%
Musculoskeletal	**5,492**	**49.1**	**Musculoskeletal**	**1,658**	**72.7**
Arthritis	2,155	39.2	Limitation of motion	632	38.1
Limitation of motion	1,742	31.7	Dorsopathies	362	21.8
Dorsopathies	1,435	26.1	Arthritis	247	14.9
Psychiatric	**2,213**	**19.8**	**Psychiatric**	**973**	**42.6**
Posttraumatic Stress Disorder	1,416	64.0	Posttraumatic Stress Disorder	346	35.6
Mood Disorder	462	20.9	Mood Disorder	101	10.4
Schizophrenia	106	4.8	Anxiety Disorder	23	2.4
Neurological	**2,424**	**21.7**	**Neurological**	**761**	**33.3**
Residuals of Traumatic Brain Injury	853	35.2	Residuals of Traumatic Brain Injury	137	18.0
Epilepsy	389	16.0	Paralysis	82	10.8
Paralysis	384	15.8	Epilepsy	69	9.1
Total Individuals Evaluated	**11,174**		**Total Individuals Evaluated**	**2,282**	

*The definition associated with VASRD code 8045 change in FY 2008 from 'brain disease due to trauma' to 'residuals of traumatic brain injury'.

TABLE 8D: MOST PREVALENT CONDITIONS WITHIN LEADING BODY SYSTEM CATEGORIES: AIR FORCE, FY 2007-2010 VS. FY 2011

2007-2010			2011		
	Count	%		Count	%
Musculoskeletal	**4,013**	**44.6**	**Musculoskeletal**	**1,143**	**37.5**
Dorsopathies	2,069	51.6	Dorsopathies	745	65.2
Arthritis	926	23.1	Arthritis	379	33.2
Limitation of motion	673	16.8	Limitation of motion	271	23.7
Psychiatric	**2,210**	**24.6**	**Psychiatric**	**771**	**25.3**
Mood disorder	1,085	49.1	Mood disorder	379	49.2
Posttraumatic stress disorder	556	25.2	Posttraumatic stress disorder	245	31.8
Anxiety disorder	252	11.4	Anxiety disorder	119	15.4
Neurological	**1,636**	**18.2**	**Neurological**	**516**	**16.9**
Paralysis	416	25.4	Paralysis	109	21.1
Migraine	367	22.4	Migraine	104	20.2
Epilepsy	261	16.0	Epilepsy	82	15.9
Total Individuals Evaluated*	**9,001**		**Total Individuals Evaluated**	**3,047**	

*Individuals with a disposition of 'Fit' were excluded from this table

Tables 9A through 9D show the top ten most common VASRD codes utilized for 2006-2010 as compared to 2011 for the Army (Table 9A), Navy (Table 9B), Marine Corps (Table 9C), and Air Force (Table 9D). All VASRD codes, including analogous codes, were utilized in the analyses. Therefore, these tables should not be interpreted as the most commonly considered conditions, but rather the most frequently utilized VASRD codes.

In the Army and Marine Corps, the leading VASRD code in 2011 was the code for posttraumatic stress disorder (9411). The utilization of the VASRD code for PTSD in the Army in 2011 represented a large increase in the utilization of this code for PTSD relative to previous years when the VASRD code for PTSD ranked fourth among all VASRD codes utilized. In the Marine Corps the utilization of the code for PTSD also increased, but to a lesser extent than the Army. Utilization of the VASRD code for PTSD also increased in the Navy.

While the VASRD code for degenerative arthritis (5003) was the leading VASRD code in 2006-2010 in the Army, Marine Corps, and Navy; this VASRD code was not as commonly utilized in 2011. In all services musculoskeletal analogous codes are among the most commonly utilized VASRD codes, varying from 3% to 20% of all codes used. Analogous codes are used in conjunction with another VASRD code when a VASRD code for the medical condition for which a service member is undergoing disability evaluation does not exist. Though analogous VASRD codes are not intended for stand-alone interpretation, the frequent utilization of the musculoskeletal analogous codes across services suggests that more musculoskeletal codes may be necessary in order to properly characterize musculoskeletal disability in the military.]

TABLE 9A: TEN MOST COMMON VASRD CODES: ARMY, FY 2006-2010 VS. FY 2011

2006-2010			2011		
	Count	%		Count	%
Arthritis, degenerative (hypertrophic or osteoarthritis)	13,738	12.2	Posttraumatic stress disorder	3,880	13.4
Musculoskeletal analogous code (5099)	13,160	11.7	Degenerative arthritis of the spine	2,352	8.1
Musculoskeletal analogous code (5299)	7,794	6.9	Arthritis, degenerative (hypertrophic or osteoarthritis)	1,814	6.3
Posttraumatic stress disorder	7,225	6.4	Musculoskeletal analogous code (5099)	1,516	5.2
Lumbosacral or cervical strain	6,942	6.2	Intervertebral disc syndrome	1,031	3.6
Degenerative arthritis of the spine	4,706	4.2	Lumbosacral or cervical strain	1,018	3.5
Intervertebral disc syndrome	3,645	3.2	Musculoskeletal analogous code (5299)	878	3.0
Residuals of traumatic brain injury	2,691	2.4	Residuals of traumatic brain injury	835	2.9
Spinal fusion	2,169	1.9	Major depressive disorder	779	2.7
Asthma, bronchial	2,022	1.8	Leg, limitation of flexion of	726	2.5
All Other	48,257	43.0	All Other	14,167	48.9
Total VASRD codes	**112,349**		**Total VASRD codes**	**28,996**	

TABLE 9B: TEN MOST COMMON VASRD CODES: NAVY, FY 2006-2010 VS. FY 2011

2006-2010			2011		
	Count	%		Count	%
Arthritis, degenerative (hypertrophic or osteoarthritis)	1,380	7.3	Musculoskeletal analogous code (5099)	130	5.2
Musculoskeletal analogous code (5299)	1,204	6.4	Posttraumatic stress disorder	112	4.4
Musculoskeletal analogous code (5009)	739	3.9	Major depressive disorder	104	4.1
Major depressive disorder	683	3.6	Bipolar disorder	81	3.2
Lumbosacral or cervical strain	667	3.5	Arthritis, degenerative (hypertrophic or osteoarthritis)	79	3.1
Posttraumatic stress disorder	552	2.9	Intervertebral disc syndrome	70	2.8
Diabetes mellitus	501	2.6	Tenosynovitis	69	2.7
Bipolar disorder	493	2.6	Degenerative arthritis of the spine	65	2.6
Epilepsy, grand mal	480	2.5	Lumbosacral or cervical strain	54	2.1
Ulcerative colitis	468	2.5	Musculoskeletal analogous code (5299)	54	2.1
All Other	11,751	62.1	All Other	1,699	67.5
Total VASRD codes	**18,918**		**Total VASRD codes**	**2,517**	

TABLE 9C: TEN MOST COMMON VASRD CODES: MARINE CORPS, FY 2006-2010 VS. FY 2011

2006-2010			2011		
	Count	%		Count	%
Arthritis, degenerative (hypertrophic or osteoarthritis)	1,982	10.0	Post traumatic stress disorder	346	8.6
Musculoskeletal analogous code (5299)	1,588	8.0	Musculoskeletal analogous code (5099)	235	5.8
Posttraumatic stress disorder	1,416	7.2	Arthritis, degenerative (hypertrophic or osteoarthritis)	162	4.0
Musculoskeletal analogous code (5099)	1,086	5.5	Musculoskeletal analogous code (5299)	160	4.0
Residuals of traumatic brain injury	853	4.3	Tenosynovitis	151	3.7
Lumbosacral or cervical strain	621	3.1	Residuals of traumatic brain injury	137	3.4
Dementia associated with brain trauma	499	2.5	Arm, Limitation of Motion	130	3.2
Tibia and fibula, impairment of	398	2.0	Degenerative arthritis of the spine	117	2.9
Femur, impairment of	339	1.7	Ankle, limitation of motion	110	2.7
Epilepsy, grand mal	327	1.7	Arthritis, due to trauma, substantiated by X-ray findings	87	2.2
All Other	10,685	54.0	All Other	2,409	59.6
Total VASRD codes	**19,794**		**Total VASRD codes**	**4,044**	

TABLE 9D: TEN MOST COMMON VASRD CODES: AIR FORCE, FY 2007-2010 VS. FY 2011

2007-2010			2011		
	Count	%		Count	%
Intervertebral disc syndrome	1,090	8.0	Asthma, bronchial	363	7.4
Arthritis, degenerative (hypertrophic or osteoarthritis)	764	5.6	Arthritis, degenerative (hypertrophic or osteoarthritis)	313	6.4
Asthma, bronchial	739	5.5	Degenerative arthritis of the spine	274	5.6
Major depressive disorder	589	4.3	Intervertebral disc syndrome	252	5.1
Posttraumatic stress disorder	556	4.1	Posttraumatic stress disorder	245	5.0
Musculoskeletal analogous code (5099)	495	3.7	Major depressive disorder	223	4.5
Migraine	367	2.7	Musculoskeletal analogous code (5099)	178	3.6
Degenerative arthritis of the spine	316	2.3	Lumbosacral or cervical strain	110	2.2
Bipolar disorder	315	2.3	Migraine	109	2.2
Spinal fusion	301	2.2	Bipolar disorder	92	1.9
All Other	8,025	59.2	All Other	2,769	55.5
Total VASRD codes*	**13,557**		**Total VASRD codes***	**4,928**	

*VASRD codes assigned to individuals with a disposition of 'Fit' were excluded

Table 10A shows the distribution of the last disposition by service for all disability discharge evaluations comparing 2011 to 2006-2010, excluding periodic TDRL re-evaluations in all services. When considering the last disposition for all disability evaluations, the most common disposition in 2011 in all services was separation with severance, though a larger proportion of individuals evaluated for disability in the Marine Corps are separated with severance as compared to the other services. Placement on the TDRL was the second most common disposition following disability discharge evaluation in all services in 2011. Fit determinations were most common in the Navy in 2011 and permanent disability retirement was most common in the Army and Air Force. These findings are consistent with observed distribution of disposition in the previous five years in all services. However, separated with severance among Army dispositions decreased in 2011 and permanent disability retirement increased in 2011 in the Navy, Marine Corps, and Air Force relative to the previous five years.

Table 10B shows the distribution of latest dispositions by service for individuals who had a first disposition of 'Placed on the TDRL' from 2006 to 2011. The category 'No re-evaluation' represents service members who were placed on the TDRL, but have not yet undergone periodic TDRL re-evaluation. The vast majority of the individuals placed on the TDRL in 2011 have not undergone periodic re-evaluation, which is unexpected given the increases in PTSD prevalence and the requirement of re-evaluation in six months for PTSD cases placed on the TDRL. Among those placed on the TDRL from 2006-2010, most had not undergone a re-evaluation within the study period. Permanent disability retirement was the most common outcome for individuals removed from the TDRL in all services constituting 27% of Navy dispositions, 35% of Marine Corps dispositions, and 38% of Army dispositions. The second most common outcome of TDRL re-evaluation in all services was being retained on the TDRL. A relatively small proportion of individuals placed on the TDRL received a final disposition of separated with benefit, separated with severance, or fit upon removal from the TDRL.

TABLE 10A: MOST RECENT DISPOSITION BY SERVICE FOR ALL INDIVIDUALS EVALUATED FOR DISABILITY DISCHARGE: FY 2006-2010 VS FY 2011[1]

	2006-2010								2011							
	Army		Navy		Marine Corps		Air Force (FY 07-10)		Army		Navy		Marine Corps		Air Force	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Permanent Disability Retired	7,052	11.8	417	3.2	439	3.9	2,060	16.0	3,024	27.4	273	14.0	302	12.0	937	25.2
Separated without Benefit	1,773	3.0	574	4.4	573	5.0	507	3.9	77	0.7	58	3.0	78	3.1	109	2.9
Separated with Severance	26,083	43.8	3,653	28.2	4,377	38.4	3,191	24.8	3,267	29.6	551	28.3	1,081	43.1	1,009	27.2
Fit	4,765	8.0	3,524	27.2	1,439	12.6	3,845	29.9	546	4.9	421	21.6	205	8.2	664	17.9
Placed on TDRL	13,984	23.5	3,970	30.6	4,004	35.1	3,231	25.2	3,069	27.8	540	27.7	729	29.1	992	26.7
Administrative Termination	2,057	3.5	-	-	-	-	-	-	347	3.1	-	-	-	-	-	-
Other[2]	3,870	6.5	824	6.4	567	5.0	8	0.1	719	6.5	106	5.4	112	4.5	-	-
Total Individuals	**59,584**		**12,962**		**11,399**		**12,842**		**11,049**		**1,949**		**2,507**		**3,711**	

1. Individuals with a 'Retained on the TDRL' disposition as their first disposition during the time period covered by this report are excluded from this table.
2. Including, but not limited, individuals with dispositions of no action, limited duty, or administrative removal from TDRL.

TABLE 10B: MOST RECENT DISPOSITION BY SERVICE FOR INDIVIDUALS WHOSE FIRST DISPOSITION WAS PLACED ON TDRL: FY 2006-2010 VS FY 2011[1]

	2006-2010						2011					
	Army		Navy		Marine Corps		Army		Navy		Marine Corps	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Permanent Disability Retired	5,347	38.2	871	26.7	989	34.5	6	0.2	-	-	-	-
Retained on TDRL	594	4.2	254	7.8	171	6.0	-	-	-	-	14	1.9
Separated without Benefit	4	0.0	1	<0.01	1	<0.01	-	-	-	-	-	-
Separated with Severance	547	3.9	204	6.3	246	8.6	-	-	-	-	1	0.1
Fit	141	1.0	68	2.1	88	3.1	-	-	-	-	-	-
Administrative termination	48	0.3	-	-	-	-	-	-	-	-	-	-
No re-evaluation[2]	7,280	52.1	1,839	56.4	1,338	46.7	3,063	99.8	540	100.0	713	97.9
Other[3]	23	0.2	23	<0.01	31	1.1	-	-	-	-	-	-
Total Individuals[4]	**13,984**		**3,260**		**2,864**		**3,069**		**540**		**728**	

1. Air Force does not provide information on TDRL re-evaluations and therefore is excluded from this table.
2. Number of individuals who were placed on the TDRL from FY 2006 to FY 2011 but have not had a re-evaluation.
3. Includes individuals with dispositions of no action, limited duty, or administrative removal from TDRL.
4. Total individuals is less than the total evaluations that resulted in placement on the TDRL, indicating that a some individuals were placed on TDRL more than once between FY 2006 and FY 2011.

Latest percent rating among evaluations for disability discharge is shown by service for the period for 2011 vs 2006-2010 for all services in Table 11A. In 2011, the most frequently assigned rating was 10% in all services except the Air Force where a slightly higher percentage of individuals rated for disability were rated 30% compared to those rated 10%. Navy considerations were most frequently rated at 100% when compared to other services. Disability ratings greater than 30% in the Navy and Air Force accounted for about 40% of disability discharge evaluations while about 50% Army cases and about 30% of Marine Corps cases were rated higher than 30%. The most common percent ratings 2011 did not differ from what was observed in previous years nor did the proportion of cases rated greater than 30%.

Latest percent rating among individuals placed on the TDRL is shown by service for 2011vs 2006-2010 for all services is shown Table 11B. In 2011, the most frequently assigned rating at TDRL re-evaluation was 30% in the Marine Corps, 60% in the Army, and 50% in the Navy. Navy evaluations were most frequently rated at 100% when compared to other services. Nearly all individuals placed on the TDRL in 2011 had ratings of 30% or higher which is expected at time of placement on the TDRL. Individuals placed on the TDRL in the period from 2006 to 2010 had more variation in the percent ratings assigned. In all services the most common percent rating was 30% and individuals place on the TDRL in the Navy between 2006 and 2010 were more likely to be assigned a rating of 100% at most recent rating.

TABLE 11A: LATEST PERCENT RATING BY SERVICE FOR ALL INDIVIDUALS EVALUATED FOR DISABILITY DISCHARGE: FY 2006-2010 VS FY 2011[1]

	2006-2010												2011											
	Army			Navy			Marine Corps			Air Force (FY 07-10)			Army			Navy			Marine Corps			Air Force		
	n	%	CP[3]	n	%	CP[3]	n	%	CP[3]	n	%	CP[3]	n	%	CP[3]	n	%	CP[3]	n	%	CP[3]	n	%	CP[3]
Unrated	6,729	11.3	-	4,561	35.2	-	2,390	21.0	-	3,763	29.3	-	625	5.7	-	539	27.7	-	346	13.8	-	774	20.9	-
0	5,449	9.1	11.2	435	3.4	5.2	497	4.4	5.5	203	1.6	2.2	201	1.8	2.1	65	3.3	4.6	125	5.0	5.8	49	1.3	1.7
10	14,877	25.0	41.7	2,269	17.5	32.4	2,817	24.7	36.8	2,240	17.4	27.0	1,830	16.6	21.3	344	17.7	29.1	617	24.6	43.4	611	16.5	22.5
20	7,290	12.2	56.6	1,097	8.5	45.6	1,129	9.9	49.4	1,382	10.8	42.2	1,357	12.3	35.5	176	9.0	41.6	358	14.3	57.7	423	11.4	36.9
30	5,874	9.9	68.6	1,979	15.3	69.3	1,851	16.2	70.0	1,830	14.3	62.4	1,019	9.2	46.2	220	11.3	57.3	255	10.2	67.9	666	17.9	59.6
40	3,650	6.1	76.1	1,101	8.5	82.5	946	8.3	80.5	1,092	8.5	74.5	816	7.4	54.8	160	8.2	68.7	185	7.4	75.3	337	9.1	71.0
50	3,534	5.9	83.4	481	3.7	88.3	611	5.4	87.3	963	7.5	85.1	1,109	10.0	66.4	184	9.4	81.8	239	9.5	84.8	380	10.2	84.0
60	3,321	5.6	90.2	293	2.3	91.8	384	3.4	91.5	532	4.1	91.0	1,220	11.0	79.2	58	3.0	85.9	122	4.9	89.7	187	5.0	90.3
70	1,979	3.3	94.2	129	1.0	93.3	290	2.5	94.8	278	2.2	94.0	931	8.4	88.9	84	4.3	91.9	108	4.3	94.0	122	3.3	94.5
80	1,168	2.0	96.6	55	0.4	94.0	118	1.0	96.1	110	0.9	95.3	495	4.5	94.1	18	0.9	93.2	46	1.8	95.8	47	1.3	96.1
90	521	0.9	97.7	19	0.2	94.2	57	0.5	96.7	27	0.2	95.6	231	2.1	96.6	7	0.4	93.7	9	0.4	96.2	7	0.2	96.3
100	1,125	1.9	100	483	3.7	100	297	2.6	100	403	3.1	100	328	3.0	100	89	4.6	100	95	3.8	100	108	2.9	100
Missing	4,067	6.8	-	60	0.5	-	12	0.1	-	19	0.1	-	887	8.0	-	5	0.3	-	2	0.1	-	-	-	-
Total	**59,584**			**12,962**			**11,399**			**12,842**			**11,049**			**1,949**			**2,507**			**3,711**		

CP=Cumulative Percent, excluding missing and unrated

1. Individuals with a 'Retained on the TDRL' disposition as their first disposition during the time period covered by this report are excluded from this table.

TABLE 11B: LATEST PERCENT RATING BY SERVICE FOR ALL INDIVIDUALS WHOSE FIRST DISPOSITION WAS PLACED ON TDRL: FY 2006-2010 VS FY 2011[1]

	2006-2010									2011								
	Army			Navy			Marine Corps			Army			Navy			Marine Corps		
	Count	%	CP[2]	Count	%	CP	Count	%	CP	Count	%	CP	Count	%	CP	Count	%	CP
Unrated	109	0.9	-	64	2.0	2.1	88	3.1	3.1	49	0.9	-	-	-	-	-	-	-
0	64	0.5	0.6	11	0.3	2.3	14	0.5	3.6	22	0.4	0.4	-	-	-	-	-	-
10	239	2.0	2.6	105	3.2	5.5	168	5.9	9.4	80	1.5	2.0	2	0.4	0.4	1	0.1	0.1
20	114	1.0	3.6	91	2.8	8.3	68	2.4	11.8	56	1.1	3.0	0	0	0.4	0	0	0.1
30	2,376	20.2	24.0	1,334	40.9	49.3	1,019	35.6	47.4	541	10.2	13.4	132	33.9	24.8	145	24.1	20.1
40	1,531	13.0	37.2	710	21.8	71.2	565	19.7	67.2	389	7.3	20.8	95	22.1	42.4	96	15.2	33.2
50	2,240	19.1	56.5	326	10.0	81.2	329	11.5	78.7	1,033	19.5	40.6	153	18.2	70.7	211	28.3	62.2
60	2,156	18.3	75.0	215	6.6	87.8	224	7.8	86.5	1,145	21.6	62.5	30	8.2	76.3	93	10.8	75.0
70	1,461	12.4	87.6	98	3.0	90.8	177	6.2	92.7	978	18.4	81.3	70	6.4	89.3	102	11.8	89.0
80	793	6.7	94.4	33	1.0	91.8	63	2.2	94.9	547	10.3	91.7	12	1.8	91.5	38	3.1	94.2
90	223	1.9	96.3	8	0.3	92.1	30	1.1	96.0	173	3.3	95.1	5	0.2	92.4	4	0.6	94.8
100	428	3.6	100	258	7.9	100	115	4.0	100	258	4.9	100	41	9.3	100	38	5.9	100
Missing	18	0.2	-	7	0.2		4	0.1		30	0.6	-	-	-	-	-	-	-
Total	**11,752**			**3,260**			**2,864**			**5,301**			**540**			**728**		

CP=Cumulative Percent, excluding missing and unrated

1. Air Force does not provide information on TDRL re-evaluations and therefore is excluded from this table.

History of Medical Disqualification, Pre-existing Conditions, Accession Medical Waiver, and Hospitalization among Service Members Evaluated for Disability

Table 11 shows the number and percentages of individuals in the DES records with records in other datasets collected by AMSARA. Applicant and waiver data are for enlisted active duty and reserve service members; hospitalization data were only available for active duty and eligible reserves at the time these analyses were completed. Accession and discharge data were available for all ranks and components. Regardless of service, the majority of those who were evaluated for disability had a loss record. Applicant records were available for the majority in all services except the Navy, where only 43% of enlisted individuals evaluated for disability had applicant records. Accession records are available for the majority of individuals evaluated for disability. However, the percentage of individuals with an accession record is lower in the Army and Air Force than in the Navy and Marine Corps. Missing applicant data may represent applications prior to 2001, the first year complete data are available. Similarly, in the case of accession data, missing data may represent accessions prior to 2000.

The highest percentage of individuals evaluated for disabilities with waiver records from any waiver authority was found in the Army (7%). Most accession medical waiver records for individuals evaluated for disability were approved regardless of service. Hospitalization at an MTF was most common in Navy service members evaluated for disability with 45% of active duty service members evaluated for disability experiencing hospitalization prior to receiving a final disposition. Air Force had the lowest rate of hospitalization at an military treatment facility (MTF) prior to receiving a final disposition.

TABLE 12: INDIVIDUALS EVALUATED FOR DISABILITY WITH RECORDS IN OTHER AMSARA DATA SOURCES: FY 2006-FY 2011

	Army		Navy		Marine Corps		Air Force (FY 07-11)	
	Count	%	Count	%	Count	%	Count	%
Applicant record[1] (2001-2010)	47,329	67.5	7,793	44.6	11,068	72.8	7,305	49.0
Accession medical waiver record[1] (1995-2010)	4,640	6.6	871	5.4	877	5.9	356	2.4
Approved	4,290	6.1	804	5.0	790	5.3	331	2.2
Denied	350	0.5	40	0.2	46	0.3	17	0.1
Pending	0	0.0	27	0.2	41	0.3	8	0.1
Accession record (2000-2010)	48,427	64.5	14,383	83.0	13,615	89.9	7,931	47.9
Hospitalization record[2] (1995-2010)	22,668	36.1	7,204	41.3	6,073	39.9	4,860	34.2
Discharge record (2000-2010)	53,590	71.3	16,249	93.0	13,935	91.6	12,681	76.6
Total Individuals	75,110		17,464		15,211		16,553	
Total Enlisted	70,145		16,192		14,743		14,893	
Total Active Duty	62,731		16,202		13,938		14,213	

1. Applicant and waiver datasets include only enlisted service members.
2. Hospitalization dataset (i.e. SIDR) includes active duty service members and qualified reserves.

Medical Disqualification and Pre-existing Conditions

AMSARA enlisted applicant records include data on medical examinations conducted at a Military Entrance Processing Station (MEPS) from 2001 to present. MEPS medical examinations dated after the MEB date, or in the case of the Air Force, the earliest IPEB received dated, were excluded from the analyses. In cases where service members evaluated for disability had more than one MEPS medical examination record, only the most recent record preceding the disability evaluation was used.

Table 13 shows the history of medical examination and application for military service among service members evaluated for disability by year of disability evaluation and service. There is a general trend in all services of increasing proportions of applicant records with increasing year of disability, a trend which is expected given the time frame for which application records are available. Overall, the Marine Corps had the highest percentage of individuals evaluated for disability who also had a MEPS medical examination record for each year of disability evaluation.

TABLE 13: RECORD OF MEDICAL EXAMINATION AT MEPS AMONG ENLISTED SERVICE MEMBERS EVALUATED FOR DISABILITY BY YEAR OF DISABILITY EVALUATION: FY 2006-FY 2011

	Army			Navy			Marine Corps			Air Force (07-11)		
	App	Total	%	App	Total	%	App	Total	%	App	Total	%
2006	5,361	10,272	52.2	1,378	4,225	32.6	1,765	3,008	58.7	-	-	-
2007	6,211	10,148	61.2	1,418	3,561	39.8	1,805	2,652	68.1	889	2,023	43.9
2008	7,308	10,778	67.8	1,319	2,575	51.2	1,751	2,322	75.4	1,492	3,580	41.7
2009	9,023	12,669	71.2	1,175	2,050	57.3	1,812	2,137	84.8	1,245	2,730	45.6
2010	9,651	13,234	72.9	1,296	1,970	65.8	1,850	2,221	83.3	1,714	3,189	53.7
2011	9,775	13,044	74.9	1,207	1,811	66.6	2,085	2,403	86.8	1,965	3,371	58.3
Total	**47,329**	**70,145**	**67.5**	**7,793**	**16,192**	**48.1**	**11,068**	**14,743**	**75.1**	**7,305**	**14,893**	**49.0**

App: Applicants with MEPS medical examination record. Total: enlisted individuals evaluated for a disability.

Medical qualification status at time of application for service for enlisted service members who underwent disability evaluation are shown in Tables 14A-14D comparing service members evaluated for disability in 2011 to those evaluated for disability in the previous five years. The rates of permanent accession medical disqualification were similar across services for both time periods. Approximately 6-8% of service members evaluated for disability had a history of permanent accession medical disqualification. Lowest rates of history of temporary accession medical disqualification were found in Air Force where less than 1% of cases with medical exam record had a temporary disqualification; highest rates were found in the Army

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TABLE 14A: MEDICAL QUALIFICATION STATUS AMONG ENLISTED INDIVIDUALS WHO WERE EVALUATED FOR DISABILITY WITH MEPS EXAMINATION RECORD: ARMY, FY 2006-2010 VS. FY 2011

	2006-2010		2011	
	Count	%	Count	%
Fully Qualified	31,006	82.6	7,997	81.8
Permanently Disqualified	2,910	7.7	798	8.2
Temporarily Disqualified*	3,638	9.7	980	10.0
Total DES Cases with Medical Exam Record	37,554		9,775	

*The majority of temporary disqualifications are due to failure to meet weight for height and body fat standards.

TABLE 14B: MEDICAL QUALIFICATION STATUS AMONG ENLISTED INDIVIDUALS WHO WERE EVALUATED FOR DISABILITY WITH MEPS EXAMINATION RECORD: NAVY, FY 2006-2010 VS. FY 2011

	2006-2010		2011	
	Count	%	Count	%
Fully Qualified	5,633	85.5	1,036	85.8
Permanently Disqualified	458	7.0	97	8.0
Temporarily Disqualified*	495	7.5	74	6.1
Total DES Cases with Medical Exam Record	6,586		1,207	

*The majority of temporary disqualifications are due to failure to meet weight for height and body fat standards.

TABLE 14C: MEDICAL QUALIFICATION STATUS AMONG ENLISTED INDIVIDUALS WHO WERE EVALUATED FOR DISABILITY WITH MEPS EXAMINATION RECORD: MARINE CORPS, FY 2006-2010 VS. FY 2011

	2006-2010		2011	
	Count	%	Count	%
Fully Qualified	7,744	86.2	1,806	86.6
Permanently Disqualified	585	6.5	144	6.9
Temporarily Disqualified*	654	7.3	135	6.5
Total DES Cases with Medical Exam Record	8,983		2,085	

*The majority of temporary disqualifications are due to failure to meet weight for height and body fat standards.

TABLE 14D: MEDICAL QUALIFICATION STATUS AMONG ENLISTED INDIVIDUALS WHO WERE EVALUATED FOR DISABILITY WITH MEPS EXAMINATION RECORD: AIR FORCE, FY 2007-2010 VS. FY 2011

	2007-2010		2011	
	Count	%	Count	%
Fully Qualified	4,837	90.6	1,800	91.6
Permanently Disqualified	469	8.8	158	8.0
Temporarily Disqualified*	34	0.6	7	0.4
Total DES Cases with Medical Exam Record	5,340		1,965	

*The majority of temporary disqualifications are due to failure to meet weight for height and body fat standards.

The leading ICD-9 diagnoses present in MEPS examination records of enlisted service members by year of disability evaluation are shown in Table 15A-Table 15D ICD-9 codes present in records of MEPS examination represent the presence of pre-existing conditions in applicants. All ICD-9 diagnoses present in the most recent medical examination record that preceded disability evaluation were used in the generation of Table 15A-Table 15D.

In all services and for all time periods, the conditions noted in the applicant files of service members who underwent disability are consistent with highly prevalent conditions in the general military applicant population [8]. In all services, overweight, obesity, and other hyperalimentation was the most common condition noted at MEPS examination. *Cannabis* abuse, was also common in the Army, Navy, and Marine Corps. Abnormal loss of weight or underweight, hearing loss, and disorders of refraction and accommodation were also among the leading ICD-9 codes in all services.

TABLE 15A: FIVE MOST COMMON ICD-9 DIAGNOSES APPEARING IN MEPS MEDICAL EXAMINATION RECORDS OF SERVICE MEMBERS EVALUATED FOR DISABILITY: ARMY, FY 2006-2010 VS. FY 2011

2006-2010				2011			
ICD-9 Diagnosis	Count	% of Cond[1]	% of App[2]	ICD-9 Diagnosis	Count	% of Cond[1]	% of App[2]
Overweight, obesity and other hyperalimentation	2,002	33.2	5.3	Overweight, obesity and other hyperalimentation	581	34.7	5.9
Hearing loss	411	6.8	1.1	Hearing loss	129	7.7	1.3
Cannabis abuse	340	5.6	0.9	*Cannabis* abuse	85	5.1	0.9
Disorders of refraction and accommodation	224	3.7	0.6	Disorders of refraction and accommodation	61	3.6	0.6
Other and unspecified disorders of bone and cartilage	178	3.0	0.5	Hypertension	45	2.7	0.5
Total Applicants with Medical Conditions	6,031	100	16.1	**Total Applicants with Medical Conditions**	1,672	100	17.1
Total DES Cases with Medical Exam Record	37,554		100	**Total DES Cases with Medical Exam Record**	9,775		100

1. Percent of applicants with each medical condition among all applicants with medical conditions.
2. Percent of applicants with each medical condition among all DES cases with a medical exam record.

TABLE 15B: FIVE MOST COMMON ICD-9 DIAGNOSES APPEARING IN MEPS MEDICAL EXAMINATION RECORDS OF SERVICE MEMBERS EVALUATED FOR DISABILITY: NAVY, FY 2006-2010 VS. FY 2011

2006-2010				2011			
ICD-9 Diagnosis	Count	% of Cond[1]	% of App[2]	ICD-9 Diagnosis	Count	% of Cond[1]	% of App[2]
Overweight, obesity and other hyperalimentation	283	29.0	4.3	Overweight, obesity and other hyperalimentation	53	29.3	4.4
Cannabis abuse	52	5.3	0.8	Disorders of refraction and accommodation	13	7.2	1.1
Asthma	44	4.5	0.7	*Cannabis* abuse	12	6.6	1.0
Disorders of refraction and accommodation	41	4.2	0.6	Hearing loss	7	3.9	0.6
Other and unspecified disorders of bone and cartilage	33	3.4	0.5	Other and unspecified disorders of bone and cartilage	7	3.9	0.6
Total Applicants with Medical Conditions	976	100	14.8	**Total Applicants with Medical Conditions**	181	100	15.0
Total DES Cases with Medical Exam Record	6,586		100	**Total DES Cases with Medical Exam Record**	1,207		100

1. Percent of applicants with each medical condition among all applicants with medical conditions.
2. Percent of applicants with each medical condition among all DES cases with a medical exam record.

TABLE 15C: FIVE MOST COMMON ICD-9 DIAGNOSES APPEARING IN MEPS MEDICAL EXAMINATION RECORDS OF SERVICE MEMBERS EVALUATED FOR DISABILITY: MARINE CORPS, FY 2006-2010 VS. FY 2011

2006-2010				2011			
ICD-9 Diagnosis	Count	% of Cond[1]	% of App[2]	ICD-9 Diagnosis	Count	% of Cond[1]	% of App[2]
Overweight, obesity and other hyperalimentation	379	27.9	4.2	Overweight, obesity and other hyperalimentation	85	26.2	4.1
Cannabis abuse	128	9.4	1.4	*Cannabis* abuse	34	10.5	1.6
Abnormal loss of weight and underweight	88	6.5	1.0	Abnormal loss of weight and underweight	19	5.8	0.9
Asthma	65	4.8	0.7	Disorders of refraction and accommodation	12	3.7	0.6
Disorders of refraction and accommodation	62	4.6	0.7	Hearing loss	11	3.4	0.5
Total Applicants with Medical Conditions	1,360	100	15.1	**Total Applicants with Medical Conditions**	325	100	15.6
Total DES Cases with Medical Exam Record	8,983		100	**Total DES Cases with Medical Exam Record**	2,085		100

1. Percent of applicants with each medical condition among all applicants with medical conditions.
2. Percent of applicants with each medical condition among all DES cases with a medical exam record.

TABLE 15D: FIVE MOST COMMON ICD-9 DIAGNOSES APPEARING IN MEPS MEDICAL EXAMINATION RECORDS OF SERVICE MEMBERS EVALUATED FOR DISABILITY: AIR FORCE, FY 2007-2010 VS. FY 2011

2007-2010				2011			
ICD-9 Diagnosis	Count	% of Cond[1]	% of App[2]	ICD-9 Diagnosis	Count	% of Cond[1]	% of App[2]
Overweight, obesity, and other hyperalimentation	123	24.5	2.3	Overweight, obesity, and other hyperalimentation	37	22.4	1.9
Abnormal loss of weight and underweight	32	6.4	0.6	Abnormal loss of weight and underweight	8	4.8	0.4
Disorders of refraction and accommodation	28	5.6	0.5	Disorders of refraction and accommodation	7	4.2	0.4
Asthma	16	3.2	0.3	Anxiety, dissociative, and somatoform disorders	6	3.6	0.3
Hyperkinetic syndrome of childhood	14	2.8	0.3	Hearing loss	6	3.6	0.3
Total Applicants with Medical Conditions	503	100	9.4	**Total Applicants with Medical Conditions**	165	100	8.4
Total DES Cases with Medical Exam Record	5,340		100	**Total DES Cases with Medical Exam Record**	1,965		100

1. Percent of applicants with each medical condition among all applicants with medical conditions.
2. Percent of applicants with each medical condition among all DES cases with a medical exam record.

The most prevalent ICD-9 diagnoses at MEPS medical examination are shown in Table 16A-Table 16D for each service and by leading disability body systems among individuals who were evaluated for a disability and had a MEPS medical examination record. Classification of an individual's disability conditions into body system categories is not mutually exclusive and individuals may be included in more than one body system category in cases of multiple disability conditions. Like the body system categories, ICD-9 diagnoses at MEPS examination within a body system are not mutually exclusive and an individual is represented in multiple ICD-9 diagnoses if he/she has more than one code. Therefore, percentages associated with ICD-9 diagnoses at MEPS examination within each body system can be interpreted as the percent of individuals with each ICD-9 code among all individuals with a disability condition in the body system who had a MEPS examination. In all services, the leading reasons for medical disqualification, described using ICD-9 diagnoses, did not vary based on the body system evaluated for disability.

TABLE 16A: MOST PREVALENT ICD-9 DIAGNOSES AT MEPS MEDICAL EXAMINATION WITHIN LEADING DISABILITY BODY SYSTEM CATEGORIES: ARMY, FY 2006-2010 VS. FY 2011

2006-2010			2011		
	Count	%		Count	%
Musculoskeletal	**25,000**	**66.6**	**Musculoskeletal**	**6,192**	**63.3**
Overweight, obesity and other hyperalimentation	1,446	5.8	Overweight, obesity and other hyperalimentation	403	6.5
Cannabis abuse	232	0.9	Hearing loss	73	1.2
Hearing loss	226	0.9	*Cannabis* abuse	56	0.9
Psychiatric	**8,054**	**21.4**	**Psychiatric**	**3,583**	**36.7**
Overweight, obesity and other hyperalimentation	360	4.5	Overweight, obesity and other hyperalimentation	167	4.7
Hearing loss	96	1.2	Hearing loss	46	1.3
Cannabis abuse	95	1.2	*Cannabis* abuse	29	0.8
Neurological	**5,611**	**14.9**	**Neurological**	**1,878**	**19.2**
Overweight, obesity and other hyperalimentation	247	4.4	Overweight, obesity and other hyperalimentation	87	4.6
Hearing loss	73	1.3	*Cannabis* abuse	25	1.3
Cannabis abuse	55	1.0	Hearing loss	23	1.2
Total DES Cases with Medical Exam	**37,554**	**100**	**Total DES Cases with Medical Exam**	**9,775**	**100**

TABLE 16B: MOST PREVALENT ICD-9 DIAGNOSES AT MEPS MEDICAL EXAMINATION WITHIN LEADING DISABILITY BODY SYSTEM CATEGORIES: NAVY, FY 2006-2010 VS. FY 2011

2006-2010			2011		
	Count	%		Count	%
Musculoskeletal	**2,277**	**34.6**	**Musculoskeletal**	**407**	**33.7**
Overweight, obesity, and other hyperalimentation	105	4.6	Overweight, obesity, and other hyperalimentation	18	4.4
Other disorders of bone and cartilage	17	0.7	Disorders of refraction and accommodation	5	1.2
Cannabis abuse	17	0.7	*Cannabis* abuse	3	0.7
Psychiatric	**1,151**	**17.5**	**Psychiatric**	**234**	**19.4**
Overweight, obesity, and other hyperalimentation	41	3.6	Overweight, obesity, and other hyperalimentation	12	5.1
Asthma	9	0.8	*Cannabis* abuse	3	1.3
Cannabis abuse	7	0.6	Disorders of refraction and accommodation	3	1.3
Neurological	**1,014**	**15.4**	**Neurological**	**164**	**13.6**
Overweight, obesity, and other hyperalimentation	47	4.6	Overweight, obesity, and other hyperalimentation	11	6.7
Cannabis abuse	15	1.5	Disorders of refraction and accommodation	3	1.8
Hypertension	8	0.8	*Cannabis* abuse	2	1.2
Total DES Cases with Medical Exam	**6,586**	**100**	**Total DES Cases with Medical Exam**	**1,207**	**100**

TABLE 16C: MOST PREVALENT ICD-9 DIAGNOSES AT MEPS MEDICAL EXAMINATION WITHIN LEADING DISABILITY BODY SYSTEM CATEGORIES: MARINE CORPS, FY 2006-2010 VS. FY 2011

2006-2010			2011		
	Count	%		Count	%
Musculoskeletal	**4,286**	**47.7**	**Musculoskeletal**	**1,082**	**51.9**
Overweight, obesity, and other hyperalimentation	204	4.8	Overweight, obesity, and other hyperalimentation	47	4.3
Cannabis abuse	67	1.6	*Cannabis* abuse	18	1.7
Abnormal loss of weight and underweight	43	1.0	Disorders of refraction and accommodation	8	0.7
Psychiatric	**1,955**	**21.8**	**Psychiatric**	**386**	**18.5**
Overweight, obesity, and other hyperalimentation	53	2.7	Overweight, obesity, and other hyperalimentation	16	4.1
Cannabis abuse	27	1.4	*Cannabis* abuse	6	1.6
Disorders of refraction and accommodation	14	0.7	Asthma	4	1.0
Neurological	**1,918**	**21.4**	**Neurological**	**338**	**16.2**
Overweight, obesity, and other hyperalimentation	73	3.8	Overweight, obesity, and other hyperalimentation	16	4.7
Cannabis abuse	33	1.7	*Cannabis* abuse	6	1.8
Abnormal loss of weight and underweight	15	0.8	Anxiety, dissociative, and somatoform disorders	3	0.9
Total DES Cases with Medical Exam	**8,983**	**100**	**Total DES Cases with Medical Exam**	**2,085**	**100**

TABLE 16D: MOST PREVALENT ICD-9 DIAGNOSES AT MEPS MEDICAL EXAMINATION WITHIN LEADING DISABILITY BODY SYSTEM CATEGORIES: AIR FORCE, FY 2007-2010 VS. FY 2011

2007-2010			2011		
	Count	%		Count	%
Musculoskeletal	**1,963**	**36.8**	**Musculoskeletal**	**778**	**39.6**
Overweight, obesity, and other hyperalimentation	58	3.0	Overweight, obesity, and other hyperalimentation	15	1.9
Abnormal loss of weight and underweight	10	0.5	Anxiety, dissociative, and somatoform disorders	5	0.6
Disorders of refraction and accommodation	6	0.3	Abnormal loss of weight and underweight	2	0.3
Psychiatric	**1,140**	**21.3**	**Psychiatric**	**459**	**23.4**
Overweight, obesity, and other hyperalimentation	21	1.8	Overweight, obesity, and other hyperalimentation	7	1.5
Disorders of refraction and accommodation	9	0.8	Abnormal loss of weight and underweight	3	0.7
Abnormal loss of weight and underweight	6	0.5	Anxiety, dissociative, and somatoform disorders	2	0.4
Neurological	**905**	**16.9**	**Neurological**	**395**	**20.1**
Overweight, obesity, and other hyperalimentation	11	1.2	Overweight, obesity, and other hyperalimentation	2	0.5
Disorders of refraction and accommodation	5	0.6	Abnormal loss of weight and underweight	2	0.5
Abnormal loss of weight and underweight	3	0.3	Hearing loss	1	0.3
Total DES Cases with Medical Exam	**5,340**	**100**	**Total DES Cases with Medical Exam**	**1,965**	**100**

Leading objective medical findings (OMF) conditions that appeared in MEPS records of enlisted service members evaluated for disability are shown by service and year of disability evaluation in Tables 17A-17D comparing 2011 disability evaluations to 2006-2010 evaluations. OMF conditions present in records of MEPS examination represent the presence of pre-existing conditions in applicants. All OMF present in the most recent medical examination record that preceded disability evaluation were used in the generation of Table 17A-Table 17D. The most common OMF conditions present at time of MEPS medical examination were those for weight and body build across all services and years. Lower extremity conditions and positive *Cannabis* tests were also among the most common conditions across all services and years. When compared to the general applicant population, lower extremity conditions have higher rates among service members evaluated for disability across all services

TABLE 17A: FIVE MOST COMMON OMF CONDITIONS APPEARING IN MEPS MEDICAL EXAMINATION RECORDS OF SERVICE MEMBERS EVALUATED FOR DISABILITY: ARMY, FY 2006-2010 VS. FY 2011

2006-2010				2011			
OMF[1] Condition	Count	% of Cond[2]	% of App[3]	OMF[1] Condition	Count	% of Cond[2]	% of App[3]
Weight, body build	2,183	33.8	5.8	Weight, body build	631	36.3	6.5
Lower extremities (except feet)	498	7.7	1.3	Hearing	140	8.1	1.4
Hearing	454	7.0	1.2	Body fat percentage	136	7.8	1.4
Upper extremities	336	5.2	0.9	Lower extremities (except feet)	110	6.3	1.1
Cannabis test positive	327	5.1	0.9	Psychiatric	93	5.4	1.0
Total Applicants with OMF Codes	6,468	100	16.6	**Total Applicants with OMF Codes**	1,738	100	16.3
Total DES Cases with Medical Exam	37,554		100	**Total DES Cases with Medical Exam**	9,775		100

1. OMF=Objective Medical Finding
2. Percent of applicants with each medical condition among all applicants with medical conditions.
3. Percent of applicants with each medical condition among all DES cases with a medical exam record.

TABLE 17B: FIVE MOST COMMON OMF CONDITION APPEARING IN MEPS MEDICAL EXAMINATION RECORDS OF SERVICE MEMBERS EVALUATED FOR DISABILITY: NAVY, FY 2006-2010 VS. FY 2011

2006-2010				2011			
OMF[1] Condition	Count	% of Cond[2]	% of App[3]	OMF[1] Condition	Count	% of Cond[2]	% of App[3]
Weight, body build	293	26.8	26.8	Weight, body build	57	28.9	4.7
Lower extremities (except feet)	101	9.2	9.2	Lower extremities (except feet)	21	10.7	1.7
Upper extremities	67	6.1	6.1	Skin, lymphatic, allergies	11	5.6	0.9
Lungs and chest (includes breast)	59	5.4	5.4	Abdomen and viscera (include hernia)	10	5.1	0.8
Skin, lymphatic, allergies	52	4.8	4.8	Upper extremities	10	5.1	0.8
Total Applicants with OMF Codes	1,093	100	16.6	**Total Applicants with OMF Codes**	197	100	16.3
Total DES Cases with Medical Exam	6,586		100	**Total DES Cases with Medical Exam**	1,207		100

1. OMF=Objective Medical Finding
2. Percent of applicants with each medical condition among all applicants with medical conditions.
3. Percent of applicants with each medical condition among all DES cases with a medical exam record.

TABLE 17C: FIVE MOST COMMON OMF CONDITION APPEARING IN MEPS MEDICAL EXAMINATION RECORDS OF SERVICE MEMBERS EVALUATED FOR DISABILITY: MARINE CORPS, FY 2006-2010 VS. FY 2011

2006-2010				2011			
OMF[1] Condition	Count	% of Cond[2]	% of App[3]	OMF[1] Condition	Count	% of Cond[2]	% of App[3]
Weight, body build	460	31.6	5.1	Weight, body build	106	34.9	5.1
Lower extremities (except feet)	148	10.2	1.6	*Cannabis* test positive	34	11.2	1.6
Cannabis test positive	126	8.7	1.4	Psychiatric	29	9.5	1.4
Upper extremities	109	7.5	1.2	Lower extremities (except feet)	27	8.9	1.3
Lungs and chest (includes breast)	92	6.3	1.0	Lungs and chest (includes breast)	21	6.9	1.0
Total Applicants with OMF Codes	1,455	100	16.2	**Total Applicants with OMF Codes**	304	100	14.6
Total DES Cases with Medical Exam	8,983		100	**Total DES Cases with Medical Exam**	2,085		100

1. OMF=Objective Medical Finding
2. Percent of applicants with each medical condition among all applicants with medical conditions.
3. Percent of applicants with each medical condition among all DES cases with a medical exam record.

TABLE 17D: FIVE MOST COMMON OMF CONDITIONS APPEARING IN MEPS MEDICAL EXAMINATION RECORDS OF SERVICE MEMBERS EVALUATED FOR DISABILITY: AIR FORCE, FY 2007-2010 VS. FY 2011

2007-2010				2011			
OMF[1] Condition	Count	% of Cond[2]	% of App[3]	OMF[1] Condition	Count	% of Cond[2]	% of App[3]
Weight, body build	153	30.4	2.9	Weight, body build	45	27.3	2.3
Lower extremities (except feet)	39	7.8	0.7	Lower extremities (except feet)	13	7.9	0.7
Psychiatric	33	6.6	0.6	Psychiatric	11	6.7	0.6
Upper extremities	30	6.0	0.6	Lungs and chest (includes breasts)	10	6.1	0.5
Lungs and chest (includes breasts)	23	4.6	0.4	Abdomen and viscera (includes hernia)	9	5.5	0.5
Total Applicants with OMF Codes	503	100	9.4	**Total Applicants with OMF Codes**	165	100	8.4
Total DES Cases with Medical Exam	5,340		100	**Total DES Cases with Medical Exam**	1,965		100

1. OMF=Objective Medical Finding
2. Percent of applicants with each medical condition among all applicants with medical conditions.
3. Percent of applicants with each medical condition among all DES cases with a medical exam record.

The most prevalent OMF conditions at MEPS medical examination are shown in Table 18A-Table 18D for each service and by leading disability body systems among individuals who were evaluated for a disability and had a MEPS medical examination record. Classification of an individual's disability conditions into body system categories is not mutually exclusive and individuals may be included in more than one body system category in cases of multiple disability conditions. Like the body system categories, OMF conditions at MEPS examination within a body system are not mutually exclusive and an individual is represented in multiple OMF conditions if he/she has more than one code. Therefore, percentages associated with OMF conditions at MEPS examination within each body system can be interpreted as the percent of individuals with each OMF conditions among all individuals with a disability in the body system and a MEPS examination. In all services, the leading reasons for medical disqualification, described using OMF conditions, did not vary based on body system evaluated for disability.

TABLE 18A: MOST PREVALENT OMF CODES AT MEPS MEDICAL EXAMINATION WITHIN LEADING DISABILITY BODY SYSTEM CATEGORIES: ARMY, FY 2006-2010 VS. FY 2011

2006-2010			2011		
	Count	%		Count	%
Musculoskeletal	**25,000**	**66.6**	**Musculoskeletal**	**6,192**	**63.3**
Weight, body build	1,563	6.3	Weight, body build	428	6.9
Lower extremities (except feet)	381	1.5	Body fat percentage	95	1.5
Upper extremities	253	1.0	Lower extremities (except feet)	79	1.3
Psychiatric	**8,054**	**21.4**	**Psychiatric**	**3,583**	**36.7**
Weight, body build	401	5.0	Weight, body build	190	5.3
Hearing	109	1.4	Hearing	51	1.4
Cannabis test positive	93	1.2	Psychiatric	39	1.1
Neurological	**5,611**	**14.9**	**Neurological**	**1,878**	**19.2**
Weight, body build	274	4.9	Weight, body build	93	5.0
Hearing	83	1.5	Hearing	31	1.7
Lower extremities (except feet)	62	1.1	Lower extremities (except feet)	26	1.4
Total DES Cases with Medical Exam	**37,554**	**100**	**Total DES Cases with Medical Exam**	**9,775**	**100**

TABLE 18B: MOST PREVALENT OMF CODES AT MEPS MEDICAL EXAMINATION WITHIN LEADING DISABILITY BODY SYSTEM CATEGORIES: NAVY, FY 2006-2010 VS. FY 2011

2006-2010			2011		
	Count	%		Count	%
Musculoskeletal	**2,277**	**34.6**	**Musculoskeletal**	**407**	**33.7**
Weight, body build	106	4.7	Weight, body build	18	4.4
Lower extremities (except feet)	41	1.8	Lower extremities (except feet)	11	2.7
Upper extremities	25	1.1	Upper extremities	5	1.2
Psychiatric	**1,151**	**17.5**	**Psychiatric**	**234**	**19.4**
Weight, body build	40	3.5	Weight, body build	13	5.6
Lungs and chest (includes breasts)	11	1.0	Abdomen and viscera (include hernia)	4	1.7
Lower extremities (except feet)	9	0.8	External genitalia (genitourinary)	3	1.3
Neurological	**1,014**	**15.4**	**Neurological**	**164**	**13.6**
Weight, body build	49	4.8	Weight, body build	11	6.7
Lower extremities (except feet)	15	1.5	Psychiatric	3	1.8
Cannabis test positive	14	1.4	Refraction	3	1.8
Total DES Cases with Medical Exam	**6,586**	**100**	**Total DES Cases with Medical Exam**	**1,207**	**100**

TABLE 18C: MOST PREVALENT OMF CODES AT MEPS MEDICAL EXAMINATION WITHIN LEADING DISABILITY BODY SYSTEM CATEGORIES: MARINE CORPS, FY 2006-2010 VS. FY 2011

2006-2010			2011		
	Count	%		Count	%
Musculoskeletal	**4,286**	**47.7**	**Musculoskeletal**	**1,082**	**51.9**
Weight, body build	244	5.7	Weight, body build	56	5.2
Lower extremities (except feet)	85	2.0	Lower extremities (except feet)	20	1.8
Cannabis test positive	66	1.5	*Cannabis* test positive	18	1.7
Psychiatric	**1,955**	**21.8**	**Psychiatric**	**386**	**18.5**
Weight, body build	67	3.4	Weight, body build	18	4.7
Cannabis test positive	27	1.4	Lower extremities (except feet)	6	1.6
Psychiatric	26	1.3	*Cannabis* test positive	6	1.6
Neurological	**1,918**	**21.4**	**Neurological**	**338**	**16.2**
Weight, body build	85	4.4	Weight, body build	18	5.3
Cannabis test positive	32	1.7	Psychiatric	7	2.1
Lower extremities (except feet)	22	1.1	Lower extremities (except feet)	6	1.8
Total DES Cases with Medical Exam	**8,983**	**100**	**Total DES Cases with Medical Exam**	**2,085**	**100**

TABLE 18D: MOST PREVALENT OMF CODES AT MEPS MEDICAL EXAMINATION WITHIN LEADING DISABILITY BODY SYSTEM CATEGORIES: AIR FORCE, FY 2007-2010 VS. FY 2011

2007-2010			2011		
	Count	%		Count	%
Musculoskeletal	**1,963**	**36.8**	**Musculoskeletal**	**426**	**21.7**
Weight, body build	57	2.9	Weight, body build	13	3.1
Lower extremities (except feet)	20	1.0	Lower extremities (except feet)	5	1.2
Upper extremities	14	0.7	Psychiatric	4	0.9
Psychiatric	**1,139**	**21.3**	**Psychiatric**	**289**	**14.7**
Weight, body build	29	2.5	Weight, body build	11	3.8
Psychiatric	10	0.9	Psychiatric	4	1.4
Feet	6	0.5	Blood pressure	4	1.4
Neurological	**905**	**16.9**	**Neurological**	**239**	**12.2**
Weight, body build	15	1.7	Weight, body build	4	1.7
Psychiatric	6	0.7	Abdomen and viscera	2	0.8
Refraction	4	0.4	Lower extremities (except feet)	2	0.8
Total DES Cases with Medical Exam	**5,340**	**100**	**Total DES Cases with Medical Exam**	**1,965**	**100**

Accession Medical Waivers

AMSARA enlisted waiver records include data on medical waivers considered by each service's waiver authority from 1995 to present. Only waiver applications that occurred prior to the date of medical evaluation board were included in these analyses. In cases where more than one waiver record was available for an individual only the most recent waiver record was included. If the waiver record selected for an individual contained more than one diagnosis code, only the first diagnosis code was utilized.

Table 19 shows the history of medical waiver application among enlisted service members evaluated for disability by year of disability evaluation and service. There is a general trend in all services of increasing proportions of medical waiver applicant records with increasing year of disability, a trend which is expected given the time frame for which waiver application records are available. The overall prevalence of an accession medical waiver application is similar in Army, Navy, and Marine Corps (~6%) service members who are evaluated for disability. Applications for waiver in the Air Force were much less prevalent than other services and occurred at less than half the rate in Air Force service members evaluated for disability.

TABLE 19: HISTORY OF ACCESSION MEDICAL WAIVER APPLICATIONS AMONG ENLISTED SERVICE MEMBERS EVALUATED FOR DISABILITY BY YEAR OF DISABILITY EVALUATION: FY 2006-2011

	Army			Navy			Marine Corps			Air Force		
	Waiver App	Total[1]	%[2]	Waiver App	Total[1]	%[2]	Waiver App	Total[1]	%[2]	Waiver App	Total[1]	%[2]
2006	573	10,272	5.6	169	4,204	4.0	143	2,975	4.8	-	-	-
2007	595	10,148	5.9	172	3,542	4.9	160	2,634	6.1	46	2,023	2.3
2008	668	10,778	6.2	144	2,571	5.6	144	2,313	6.2	69	3,580	1.9
2009	898	12,669	7.1	138	2,047	6.7	147	2,136	6.9	73	2,730	2.7
2010	975	13,234	7.4	129	1,968	6.6	123	2,221	5.5	66	3,189	2.1
2011	931	13,044	7.1	119	1,811	6.6	160	2,403	6.7	102	3,371	3.0
Total	**4,640**	**70,145**	**6.6**	**871**	**16,143**	**5.4**	**877**	**14,682**	**6.0**	**356**	**14,893**	**2.4**

1.Total enlisted individuals evaluated for disability

2.Percent of enlisted disability cases with a history of accession medical wavier application

The leading diagnosis codes listed in medical accession waiver application records of enlisted service members are shown in Tables 20A-20D. Results are shown by year of disability evaluation comparing 2011 disability evaluations to those occurring in the previous five years. Among Army service members evaluated for disability who applied for a waiver the predominant conditions in both 2011 and the preceding five years were hearing loss and disorders of refraction and accommodation. In Navy service members evaluated for disability, disorders of refraction and accommodation was more common in 2011 than in the previous five years but remained the leading condition among waiver considerations in the disabled population. Non-specific abnormal findings and other diseases of the bone and cartilage were the leading reasons Marine Corps personnel sought pre-accession medical waivers, regardless of the time period they became disabled. Among Air Force personnel evaluated for disability in 2011 and 2006-2010 the leading condition for which pre-accession medical waivers were sought was disorders of refraction and accommodation.

TABLE 20A: FIVE MOST COMMON ICD-9 DIAGNOSES FOR ACCESSION MEDICAL WAIVERS CONSIDERED AMONG ENLISTED INDIVIDUALS EVALUATED FOR DISABILITY: ARMY, FY 2006-2010 VS. FY 2011

2006-2010			2011		
ICD-9 Diagnosis	Count	%	ICD-9 Diagnosis	Count	%
Hearing loss	398	10.7	Hearing loss	102	11.0
Disorders of refraction and accommodation	254	6.8	Disorders of refraction and accommodation	59	6.3
Asthma	195	5.3	Elevated blood pressure reading without diagnosis of hypertension	52	5.6
Other and unspecified disorders of bone and cartilage	192	5.2	Asthma	39	4.2
Elevated blood pressure reading without diagnosis of hypertension	159	4.3	Other and unspecified disorders of bone and cartilage	39	4.2
Total DES Cases with Waiver Application	**3,709**	**100**	**Total DES Cases with Waiver Application**	**931**	**100**

TABLE 20B: FIVE MOST COMMON DoDI DIAGNOSES FOR ACCESSION MEDICAL WAIVERS CONSIDERED AMONG ENLISTED INDIVIDUALS EVALUATED FOR DISABILITY: NAVY, FY 2006-2010 VS. FY 2011

2006-2010			2011		
DoDI Diagnosis	Count	%	DoDI Diagnosis	Count	%
Disorders of refraction and accommodation	55	7.3	Disorders of refraction and accommodation	18	15.1
Other and unspecified disorders of bone and cartilage	52	6.9	Hearing loss	9	7.6
Hearing loss	50	6.6	Asthma	6	5.0
Asthma	46	6.1	Other and unspecified disorders of bone and cartilage	6	5.0
Essential hypertension	37	0.3	Acute sinusitis	5	0.3
Total DES Cases with Waiver Application	**752**	**100**	**Total DES Cases with Waiver Application**	**119**	**100**

TABLE 20C: FIVE MOST COMMON DODI DIAGNOSES FOR ACCESSION MEDICAL WAIVERS CONSIDERED AMONG ENLISTED INDIVIDUALS EVALUATED FOR DISABILITY: MARINE CORPS, FY 2006-2010 VS. FY 2011

2006-2010			2011		
DoDI Diagnosis	Count	%	DoDI Diagnosis	Count	%
Other and unspecified disorders of bone and cartilage	92	12.8	Other nonspecific abnormal findings	21	13.1
Other nonspecific abnormal findings	83	11.6	Other and unspecified disorders of bone and cartilage	17	10.6
Asthma	69	9.6	Asthma	13	8.1
Disorders of refraction and accommodation	55	7.7	Anxiety, dissociative, and somatoform disorders	11	6.9
Hyperkinetic syndrome of childhood	45	6.3	Disorders of refraction and accommodation	10	6.3
Total DES Cases with Waiver Application	**717**	**100**	**Total DES Cases with Waiver Application**	**160**	**100**

TABLE 20D: FIVE MOST COMMON ICD-9 DIAGNOSES FOR ACCESSION MEDICAL WAIVERS CONSIDERED AMONG ENLISTED INDIVIDUALS EVALUATED FOR DISABILITY: AIR FORCE, FY 2007-2010 VS. FY 2011

2007-2010			2011		
ICD-9 Diagnosis	Count	%	ICD-9 Diagnosis	Count	%
Disorders of refraction and accommodation	26	10.2	Disorders of refraction and accommodation	10	9.8
Hyperkinetic syndrome of childhood	21	8.3	Asthma	10	9.8
Repair and plastic operations on joint structures	18	7.1	Hyperkinetic syndrome of childhood	7	6.9
Reduction of fracture and dislocation	16	6.3	Reduction of fracture and dislocation	6	5.9
Affective psychoses	12	4.7	Repair and plastic operations on joint structures	6	5.9
Total DES Cases with Waiver Application	**254**	**100**	**Total DES Cases with Waiver Application**	**102**	**100**

The most prevalent ICD-9 diagnoses at accession medical waiver are shown in Table 21A-Table 21D for each service and by leading disability body systems among individuals who were evaluated for a disability and had an accession medical waiver application record. Classification of an individual's disability conditions into body system categories is not mutually exclusive and individuals may be included in more than one body system category in cases of multiple disability conditions. Like the body system categories, ICD-9 diagnoses at accession medical waiver application within a body system are not mutually exclusive and an individual is represented in multiple ICD-9 diagnoses if he/she has more than one code. Percentages associated with ICD-9 diagnoses at accession medical waiver application within each body system can be interpreted as the percent of individuals with each ICD-9 diagnoses among all individuals with a disability condition in the body system who applied for an accession medical waiver. In all services, the leading reasons for accession medical waiver, described using ICD-9 diagnoses, did not vary based on the body system evaluated for disability.

TABLE 21A: MOST PREVALENT ICD-9 CODES AT ACCESSION MEDICAL WAIVER APPLICATION WITHIN LEADING DISABILITY BODY SYSTEM CATEGORIES: ARMY, FY 2006-2010 VS. FY 2011

2006-2010			2011		
	Count	%		Count	%
Musculoskeletal	**2,473**	**66.7**	**Musculoskeletal**	**590**	**63.4**
Hearing loss	217	8.8	Hearing loss	53	9.0
Disorders of refraction and accommodation	158	6.4	Disorders of refraction and accommodation	39	6.6
Other disorders of bone and cartilage	156	6.3	Elevated blood pressure without hypertension	36	6.1
Psychiatric	**728**	**19.6**	**Psychiatric**	**313**	**33.6**
Hearing loss	95	13.0	Hearing loss	39	12.5
Disorders of refraction and accommodation	49	6.7	Asthma	16	5.1
Asthma	47	6.5	Disorders of refraction and accommodation	15	4.8
Neurological	**548**	**14.8**	**Neurological**	**182**	**19.5**
Hearing loss	69	12.6	Hearing loss	21	11.5
Disorders of refraction and accommodation	34	6.2	Disorders of refraction and accommodation	9	4.9
Other disorders of bone and cartilage	28	5.1	Other disorders of bone and cartilage	8	4.4
Total DES Cases with Waiver Application	**3,709**	**100**	**Total DES Cases with Waiver Application**	**931**	**100**

TABLE 21B: MOST PREVALENT ICD-9 CODES AT ACCESSION MEDICAL WAIVER APPLICATION WITHIN LEADING DISABILITY BODY SYSTEM CATEGORIES: NAVY, FY 2006-2010 VS. FY 2011

2006-2010			2011		
	Count	%		Count	%
Musculoskeletal	**271**	**36.0**	**Musculoskeletal**	**52**	**43.7**
Other disorders of bone and cartilage	24	8.9	Disorders of refraction and accommodation	7	13.5
Hearing loss	20	7.4	Hearing loss	3	5.8
Disorders of refraction and accommodation	18	6.6	Acute sinusitis	3	5.8
Psychiatric	**117**	**15.6**	**Psychiatric**	**18**	**15.1**
Asthma	9	7.7	Disorders of refraction and accommodation	4	22.2
Disorders of refraction and accommodation	9	7.7	Disorders of carbohydrate metabolism	1	5.6
Other nonspecific abnormal findings	6	5.1	Acquired hypothyroidism	1	5.6
Neurological	**124**	**16.5**	**Neurological**	**18**	**15.1**
Hypertension	12	9.7	Disorders of refraction and accommodation	4	22.2
Other disorders of bone and cartilage	10	8.1	Peptic ulcer, site unspecified	2	11.1
Hearing loss	7	5.6	Benign neoplasm of male genital organs	1	5.6
Total DES Cases with Waiver Application	**752**	**100**	**Total DES Cases with Waiver Application**	**119**	**100**

TABLE 21C: MOST PREVALENT ICD-9 CODES AT ACCESSION MEDICAL WAIVER APPLICATION WITHIN LEADING DISABILITY BODY SYSTEM CATEGORIES: MARINE CORPS, FY 2006-2010 VS. FY 2011

2006-2010			2011		
	Count	%		Count	%
Musculoskeletal	**352**	**49.1**	**Musculoskeletal**	**93**	**58.1**
Other disorders of bone and cartilage	52	14.8	Other nonspecific abnormal findings	12	12.9
Other nonspecific abnormal findings	49	13.9	Other disorders of bone and cartilage	10	10.8
Internal derangement of knee	26	7.4	Asthma	8	8.6
Psychiatric	**141**	**19.7**	**Psychiatric**	**26**	**16.3**
Asthma	16	11.3	Asthma	4	15.4
Other nonspecific abnormal findings	16	11.3	Other nonspecific abnormal findings	3	11.5
Hypertension	15	10.6	Hyperkinetic syndrome of childhood	2	7.7
Neurological	**145**	**20.2**	**Neurological**	**39**	**24.4**
Other nonspecific abnormal findings	18	12.4	Other disorders of bone and cartilage	6	15.4
Other disorders of bone and cartilage	16	11	Other nonspecific abnormal findings	6	15.4
Asthma	13	9	Anxiety, dissociative, and somatoform disorders	4	10.3
Total DES Cases with Waiver Application	**717**	**100**	**Total DES Cases with Waiver Application**	**160**	**100**

TABLE 21D: MOST PREVALENT ICD-9 CODES AT ACCESSION MEDICAL WAIVER APPLICATION WITHIN LEADING DISABILITY BODY SYSTEM CATEGORIES: AIR FORCE, FY 2007-2010 VS. FY 2011

2007-2010			2011		
	Count	%		Count	%
Musculoskeletal	**89**	**35.0**	**Musculoskeletal**	**40**	**39.2**
Hyperkinetic syndrome of childhood	9	10.1	Disorders of refraction and accommodation	6	15.0
Disorders of refraction and accommodation	8	9.0	Hyperkinetic syndrome of childhood	5	12.5
Osteochondropathies	7	7.9	Repair and plastic operations on joint structures	5	12.5
Psychiatric	**55**	**21.7**	**Psychiatric**	**28**	**27.5**
Disorders of refraction and accommodation	8	14.5	Disorders of refraction and accommodation	4	14.3
Reduction of fracture and dislocation	6	10.9	Asthma	4	14.3
Hyperkinetic syndrome of childhood	5	9.1	Hyperkinetic syndrome of childhood	2	7.1
Neurological	**34**	**13.4**	**Neurological**	**24**	**23.5**
Disorders of refraction and accommodation	7	20.6	Asthma	3	12.5
Repair and plastic operations on joint structures	5	14.7	Reduction of fracture and dislocation	3	12.5
Affective psychoses	3	8.8	Repair and plastic operations on joint structures	2	8.3
Total DES Cases with Waiver Application	**254**	**100**	**Total DES Cases with Waiver Application**	**102**	**100**

Hospitalization

Hospitalization records received by AMSARA include data on direct care inpatient visits among active duty service members from 1995 to present. Only hospitalizations that occurred prior to the date of medical evaluation board were included in these analyses. In cases where more than one hospitalization record was available for an individual only the most recent hospitalization record which preceded the final disposition was included. Only the diagnoses listed as primary in the hospitalization record were utilized in the creation of these tables.

Table 22 shows the history of hospitalization among service members evaluated for disability by year of disability evaluation and service. There is a general trend in all services of declining proportions of history of hospitalization with in more recent years of disability evaluation. Overall, the Marine Corps and Navy had the highest percentage of individuals evaluated for disability who also had a history of hospitalization for each year of disability evaluation.

TABLE 22: HISTORY OF HOSPITALIZATION BY YEAR OF DISABILITY EVALUATION: FY 2006-2011

	Army			Navy			Marines Corps			Air Force		
	Hosp	Total*	%	Hosp	Total*	%	Hosp	Total*	%	Hosp	Total*	%
2006	4,131	10,683	38.7	2,026	4,106	49.3	1,365	2,813	48.5	-	-	-
2007	3,769	10,259	36.7	1,670	3,534	47.3	1,183	2,446	48.4	624	2,027	30.8
2008	3,648	10,360	35.2	1,076	2,528	42.6	974	2,152	45.3	1,185	3,474	34.1
2009	4,183	11,472	36.5	823	2,022	40.7	793	1,969	40.3	942	2,593	36.3
2010	3,628	10,206	35.5	861	1,994	43.2	830	2,078	39.9	1,061	3,013	35.2
2011	3,309	9,751	33.9	748	1,823	41.0	928	2,355	39.4	1,048	3,106	33.7
Total	**22,668**	**62,731**	**36.1**	**7,204**	**16,007**	**45.0**	**6,073**	**13,813**	**44.0**	**4,860**	**14,213**	**34.2**

* Total disability evaluations

The most common primary diagnoses at hospitalization for service members evaluated for disability are shown in Tables 23A-23D. Psychiatric disorders were the leading reason for hospitalization in 2011 among individuals evaluated for disability in 2011 in the Army, Navy, and Marine Corps. In the Air Force the most common reason for hospitalization in 2011 was childbirth. Childbirth was also among the leading causes of hospitalization in Navy in both time periods.

TABLE 23A: FIVE MOST COMMON ICD-9 PRIMARY DIAGNOSIS CODES FOR HOSPITALIZATIONS AMONG ACTIVE DUTY DISABILITY EVALUATIONS: ARMY, FY 2006-2010 VS. FY 2011

2006-2010			2011		
ICD-9 Diagnosis	Count	%	ICD-9 Diagnosis	Count	%
Adjustment reaction	1,024	5.3	Adjustment reaction	199	6.0
Affective psychoses	957	4.9	Affective psychoses	165	5.0
Intervertebral disc disorders	790	4.1	Intervertebral disc disorders	132	4.0
Symptoms involving respiratory system and other chest symptoms	407	2.1	Symptoms involving respiratory system and other chest symptoms	86	2.6
Internal derangement of knee	392	2.0	Other cellulitis and abscess	75	2.3
Total DES Cases Hospitalized	**19,359**	**100**	**Total DES Cases Hospitalized**	**3,309**	**100**

TABLE 23B: FIVE MOST COMMON ICD-9 PRIMARY DIAGNOSIS CODES FOR HOSPITALIZATIONS AMONG ACTIVE DUTY DISABILITY EVALUATIONS: NAVY, FY 2006-2010 VS. FY 2011

2006-2010			2011		
ICD-9 Diagnosis	Count	%	ICD-9 Diagnosis	Count	%
Affective psychoses	697	10.8	Affective psychoses	134	17.9
Intervertebral disc disorder	358	5.5	Adjustment reaction	57	7.6
Trauma to perineum and vulva during delivery	294	4.6	Trauma to perineum and vulva during delivery	47	6.3
Schizophrenic psychoses	293	4.5	Intervertebral disc disorder	41	5.5
Adjustment reaction	272	4.2	Schizophrenic psychoses	36	4.8
Total DES Cases Hospitalized	**6,456**	**100**	**Total DES Cases Hospitalized**	**748**	**100**

TABLE 23C: FIVE MOST COMMON ICD-9 PRIMARY DIAGNOSIS CODES FOR HOSPITALIZATIONS AMONG ACTIVE DUTY DISABILITY EVALUATIONS: MARINE CORPS, FY 2006-2010 VS. FY 2011

2006-2010			2011		
ICD-9 Diagnosis	Count	%	ICD-9 Diagnosis	Count	%
Affective psychoses	422	8.2	Affective psychoses	77	8.3
Adjustment reaction	327	6.4	Adjustment reaction	62	6.7
Fracture of tibia and fibula	207	4.0	Internal derangement of knee	40	4.3
Internal derangement of knee	194	3.8	Intervertebral disc disorder	40	4.3
Schizophrenic psychoses	176	3.4	Fracture of tibia and fibula	30	3.2
Total DES Cases Hospitalized	**5,145**	**100**	**Total DES Cases Hospitalized**	**928**	**100**

TABLE 23D: FIVE MOST COMMON ICD-9 PRIMARY DIAGNOSIS CODES FOR HOSPITALIZATIONS AMONG ACTIVE DUTY DISABILITY EVALUATIONS: AIR FORCE, FY 2007-2010 VS. FY 2011

2007-2010			2011		
ICD-9 Diagnosis	Count	%	ICD-9 Diagnosis	Count	%
Trauma to perineum and vulva during delivery	223	5.8	Trauma to perineum and vulva during delivery	74	7.1
Affective psychoses	196	5.1	Affective psychoses	67	6.4
Intervertebral disc disorders	162	4.2	Adjustment reaction	44	4.2
Symptoms involving respiratory system and other chest symptoms	136	3.6	Intervertebral disc disorders	40	3.8
Adjustment reaction	117	3.1	Symptoms involving respiratory system and other chest symptoms	37	3.5
Total DES Cases Hospitalized	**3,812**	**100**	**Total DES Cases Hospitalized**	**1,048**	**100**

The most prevalent primary ICD-9 diagnoses at most recent hospitalization are shown in Table 24A-Table 24D for each service and by leading disability body systems for individuals who were evaluated for a disability and had a history of hospitalization. Classification of an individual's disability conditions into body system categories is not mutually exclusive and individuals may be included in more than one body system category in cases of multiple disability conditions. Like the body system categories, primary ICD-9 diagnoses at hospitalization within a body system are not mutually exclusive and an individual is represented in multiple ICD-9 diagnoses if he/she has more than one code. Percentages associated with ICD-9 diagnoses at hospitalization within each body system can be interpreted as the percent of individuals with each ICD-9 diagnoses at hospitalization among all individuals with a disability condition in the body system that had a history of hospitalization.

Intervertebral disc disorders were the leading primary diagnosis at hospitalization among individuals with musculoskeletal disabilities in all services except the Marine Corps where internal derangement of the knee was the leading cause of hospitalization. Among individuals evaluated for psychiatric disability affective psychoses and adjustment reactions were the most common reasons for hospitalizations in all services. No consistent pattern of reason for hospitalization was observed in individuals evaluated for a neurological disability. In the Army, Intervertebral disc disorders and adjustment reactions were the most common reasons for hospitalization among those evaluated for neurological disability. Febrile convulsions and epilepsy were the most common reasons for hospitalizations among those evaluated for neurological disability in the Navy and Marine Corps and childbirth was the most common reason for hospitalization among individuals evaluated for neurological disability in the Air Force.

TABLE 24A: MOST PREVALENT PRIMARY ICD-9 DIAGNOSES AT HOSPITALIZATION WITHIN LEADING DISABILITY BODY SYSTEM CATEGORIES: ARMY, FY 2006-2010 VS. FY 2011

2006-2010			2011		
	Count	%		Count	%
Musculoskeletal	**10,509**	**54.3**	**Musculoskeletal**	**1,990**	**60.1**
Intervertebral disc disorders	699	6.7	Intervertebral disc disorders	121	6.1
Adjustment reaction	365	3.5	Adjustment reaction	112	5.6
Internal derangement of knee	318	3.0	Affective psychoses	55	2.8
Psychiatric	**5,627**	**29.1**	**Psychiatric**	**1,349**	**40.8**
Affective psychoses	818	14.5	Adjustment reaction	150	11.1
Adjustment reaction	716	12.7	Affective psychoses	138	10.2
Schizophrenic psychoses	254	4.5	Symptoms involving respiratory system and other chest symptoms	41	3.0
Neurological	**3,913**	**20.2**	**Neurological**	**713**	**21.5**
Intervertebral disc disorders	194	5.0	Adjustment reaction	49	6.9
Adjustment reaction	135	3.5	Intervertebral disc disorders	43	6.0
Febrile convulsions (simple), unspecified	87	2.2	Epilepsy	22	3.1
Total DES Cases Hospitalized	**19,359**	**100**	**Total DES Cases Hospitalized**	**3,309**	**100**

TABLE 24B: MOST PREVALENT PRIMARY ICD-9 DIAGNOSES AT HOSPITALIZATION WITHIN LEADING DISABILITY BODY SYSTEM CATEGORIES: NAVY, FY 2006-2010 VS. FY 2011

2006-2010			2011		
	Count	%		Count	%
Musculoskeletal	**1,712**	**27.3**	**Musculoskeletal**	**191**	**28.8**
Intervertebral disc disorder	234	13.7	Intervertebral disc disorder	23	12.0
Internal derangement of knee	98	5.7	Trauma to perineum and vulva during delivery	13	6.8
Other complications of procedures,	91	5.3	Other complications of procedures	13	6.8
Psychiatric	**1,456**	**23.3**	**Psychiatric**	**184**	**27.7**
Affective psychoses	420	28.8	Affective psychoses	66	35.9
Schizophrenic psychoses	227	15.6	Adjustment reaction	31	16.8
Adjustment reaction	151	10.4	Schizophrenic psychoses	27	14.7
Neurological	**1,215**	**19.4**	**Neurological**	**104**	**15.7**
Febrile convulsions (simple), unspecified	142	11.7	Epilepsy	6	5.8
Intervertebral disc disorder	86	7.1	Migraine	6	5.8
Epilepsy	49	4.0	Trauma to perineum and vulva during delivery	6	5.8
Total DES Cases Hospitalized	**6,260**	**100**	**Total DES Cases Hospitalized**	**664**	**100**

TABLE 24C: MOST PREVALENT PRIMARY ICD-9 DIAGNOSES AT HOSPITALIZATION WITHIN LEADING DISABILITY BODY SYSTEM CATEGORIES: MARINE CORPS, FY 2006-2010 VS. FY 2011

2006-2010			2011		
	Count	%		Count	%
Musculoskeletal	**2,275**	**36.4**	**Musculoskeletal**	**456**	**45.2**
Internal derangement of knee	138	6.1	Internal derangement of knee	33	7.2
Fracture of tibia and fibula	116	5.1	Intervertebral disc disorder	32	7.0
Intervertebral disc disorder	115	5.1	Other complications of procedures, not elsewhere classified	21	4.6
Psychiatric	**1,445**	**23.1**	**Psychiatric**	**216**	**21.4**
Affective psychoses	237	16.4	Affective psychoses	46	21.3
Adjustment reaction	178	12.3	Adjustment reaction	33	15.3
Thiamine and niacin deficiency states	126	8.7	Schizophrenic psychoses	16	7.4
Neurological	**1,292**	**20.7**	**Neurological**	**160**	**15.9**
Febrile convulsions (simple), unspecified	59	4.6	Epilepsy	6	3.8
Adjustment reaction	34	2.6	Malignant neoplasm of brain	5	3.1
Other cellulitis and abscess	28	2.2	Adjustment reaction	5	3.1
Total DES Cases Hospitalized	**6,252**	**100**	**Total DES Cases Hospitalized**	**1,009**	**100**

TABLE 24D: MOST PREVALENT PRIMARY ICD-9 DIAGNOSES AT HOSPITALIZATION WITHIN LEADING DISABILITY BODY SYSTEM CATEGORIES: AIR FORCE, FY 2007-2010 VS. FY 2011

2007-2010			2011		
	Count	%		Count	%
Musculoskeletal	**1,076**	**28.2**	**Musculoskeletal**	**409**	**39.0**
Intervertebral disc disorders	90	8.4	Trauma to perineum and vulva during delivery	29	7.1
Trauma to perineum and vulva during delivery	70	6.5	Intervertebral disc disorders	27	6.6
Dentofacial anomalies	36	3.3	Other indications for care or intervention related to labor and delivery	15	3.7
Psychiatric	**781**	**20.5**	**Psychiatric**	**264**	**25.2**
Affective psychoses	160	20.5	Affective psychoses	59	22.3
Adjustment reaction	67	8.6	Adjustment reaction	34	12.9
Other nonorganic psychoses	53	6.8	Other nonorganic psychoses	15	5.7
Neurological	**563**	**14.8**	**Neurological**	**160**	**15.3**
Trauma to perineum and vulva during delivery	22	3.9	Trauma to perineum and vulva during delivery	12	7.5
Intervertebral disc disorders	20	3.6	Symptoms involving respiratory system and other chest symptoms	9	5.6
Occlusion of cerebral arteries	19	3.4	Intervertebral disc disorders	8	5.0
Total DES Cases Hospitalized	**3,812**	**100**	**Total DES Cases Hospitalized**	**1,048**	**100**

Service Disability Evaluation System Database Limitations

- Data utilized in the generation of this report were initially collected for purposes of supporting the Accession Medical Standards Working Group (AMSWG) in the development of evidence-based medical accession standards to reduce morbidity and attrition due to pre-existing conditions. Data use agreements reflected data elements and study populations to support this research and required revision to support DES database analysis. Therefore, not all data elements were available for the full study period for all services.

- Variables representing education at the time of disability evaluation are not available in either existing AMSARA data or service disability data sent to AMSARA. MOS at disability evaluation is only complete for Army for the full study period. The Department of the Navy collects information regarding MOS, but these variables were not included in the initial data extracts that were sent to AMSARA. Both MOS and education have been associated with disability in civilian and military literature and are essential to understanding the precise risk factors associated with disability evaluation, separation, and retirement in the military.

- MEB ICD-9 diagnosis codes of the medical condition that precipitated the disability evaluation are not included in any of the service disability datasets received by AMSARA. VASRD codes give an indication of the unfitting conditions referred to the PEB, but do not contain the level of detail available when diagnoses are coded using ICD-9 codes.

- While the majority of disability evaluations had an accession record in the AMSARA databases, some who undergo disability evaluation do not have an accession record in AMSARA databases. This may limit the ability to study the relationship between characteristics of service members at accession and disability evaluation, separation, and retirement in detail.

- None of the VASRD codes associated with medical conditions for which service members are evaluated for disability is identified as primary in the databases. Therefore, it cannot be determined which condition was the primary condition which precipitated disability evaluation and the impact and prevalence of some conditions in the population may be incorrectly characterized.

Data Quality and Standardization Recommendations

1. Accurate indicators of the medical conditions that result in disability rating are not available, precluding surveillance of or evaluation of conditions which lead to disability. Though VASRD codes are available, they are not diagnosis codes. To allow for more accurate surveillance of the burden of disability in the military, each service's DES database should include one or more MEB diagnoses in the electronic disability record, in the form of text and ICD-9 codes.

2. Demographic characteristics of service members are recorded at various points throughout a service member's career. For demographic factors that are constant over time, such as race and date of birth, the values at the time of disability evaluation can be inferred from other data sources. For demographic factors that can change over time, such as occupation and education, inference of values from accession data sources may not provide the most accurate measurement. To ensure MOS and education are accurate at the time of disability evaluation, each service's DES database should record these variables at the time of disability evaluation. This will allow for the evaluation of the role of MOS and education on disability evaluation, separation, and retirement, including changes in these characteristics throughout length of service.

3. Date of the underlying injury or onset of the condition is an important variable to consider when utilizing disability evaluation system data, allowing for the measurement of time elapsed from onset to MEB to PEB to discharge. Though healthcare utilization patterns can be determined from hospitalization and ambulatory data, the precise date of the event, onset of symptoms, or initial diagnosis is difficult to infer from the data available. Each service should include additional variables within to indicate date of onset or injury and whether medical condition for which a service member is undergoing disability evaluation was due to trauma or injury and whether condition is either acute or chronic.

4. All services collect information regarding whether an unfitting condition is determined to be combat-related. However, the level and type of information varies across services. Standardization of the combat data fields collected across the services would allow for comparison of rates of combat related disability across services.

5. Variation between services in the way VASRD and analogous codes are stored in the databases makes merging the three electronic disability files into one database impossible without making unsupported assumptions about how each service enters disability data. Development of standards for the entry of VASRD codes into each service's DES database will allow for enhanced comparability of VASRD codes and the associated analogous codes across services.

6. High utilization of analogous codes, particularly among individuals with musculoskeletal disabilities, and lack of formal MEB medical diagnosis in the electronic file preclude the evaluation of the association of certain types of disability with specific medical conditions. In the absence of formal medical diagnoses that describe the disabling condition, expanding the VASRD codes, particularly musculoskeletal codes, may reduce the utilization of analogous codes and provide more complete information on the condition that precipitated the disability evaluation to inform interventions to decrease disability.

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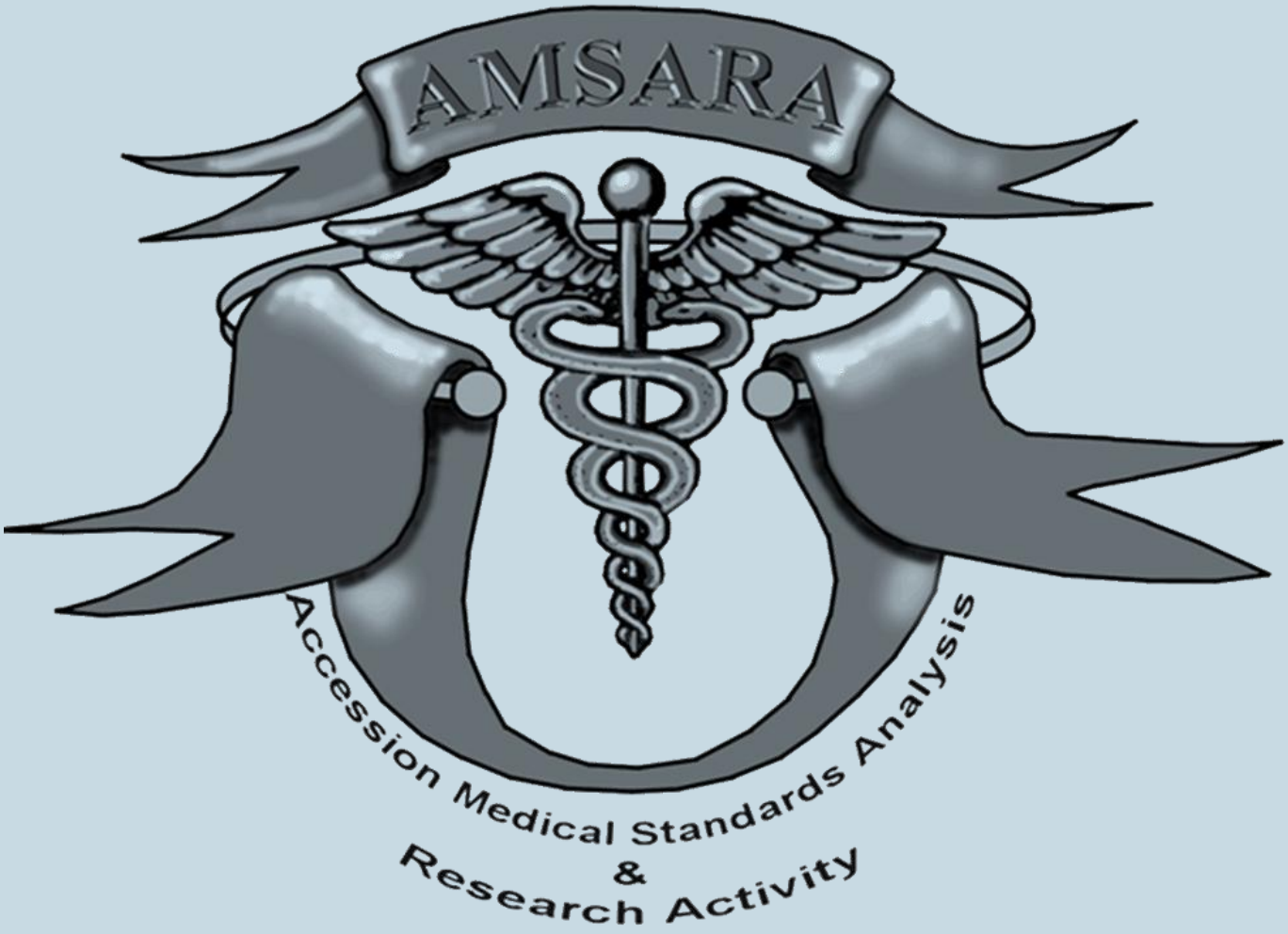
Frequently Used Acronyms

AMSARA	Accession Medical Standards Analysis and Research Activity
DES	Disability Evaluation System
DMDC	Defense Manpower Data Center
FPEB	Formal Physical Evaluation Board
FY	Fiscal Year
HL	Hearing loss
ICD-9	International Classification of Disease, 9th Revision
IPEB	Informal Physical Evaluation Board
MEB	Medical Evaluation Board
MEPS	Military Entrance Processing Station
MTF	Treatment Facility
MOS	Military Occupational Specialty
OMF	Objective medical findings
PEB	Physical Evaluation Board
PTSD	Posttraumatic Stress Disorder
SSN	Social Security Number
TBI	Traumatic Brain Injury
TDRL	Temporary Disability Retirement List
VASRD	Veterans Affairs Schedule for Rating Disabilities



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